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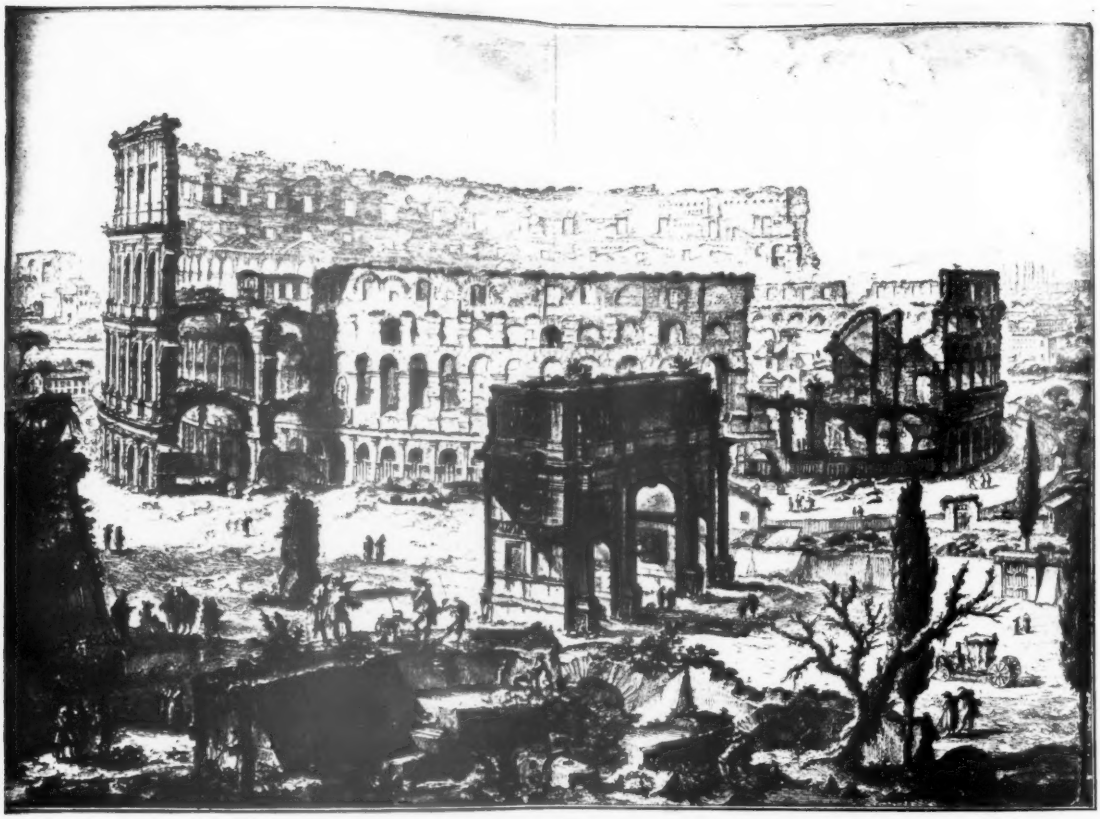

THE COLISEUM AND THE ARCH OF CONSTANTINE *c.* 1750
From Piranesi's *le Vedute di Roma*

JOURNAL OF THE

ROYAL INSTITUTE *of* BRITISH ARCHITECTS

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Journal

On the occasion of the presentation of the Royal Gold Medal to Mr. H. V. Lanchester on 9 April an exhibition of drawings and photographs of Mr. Lanchester's work will be held in the gallery.

Alderman Ewart G. Culpin, J.P. [*F.*], has been appointed vice-chairman of the London County Council and Major Harry Barnes [*F.*], who was elected as a Labour Party member for East Fulham, has been appointed chairman of the Town Planning Committee.

Most members of the Institute will have seen with great pleasure the announcement that Lord Vestey and Sir Edmund Vestey have made the most generous gift of £220,000 to enable the central tower of Sir Giles Gilbert Scott's Liverpool Cathedral to be built as soon as the central space and the western transept are completed. The central space of the cathedral is now in course of erection, and the tower will rise above this to a total height of 327 feet.

A NEW USE OF PHOTOGRAPHY IN ARCHITECTURE.

In March last year we published in the JOURNAL a section taken through that part of the City of London and the Thames, between St. Paul's Cathedral and Bankside, to demonstrate the ever increasing danger of losing finally all the most valued distant views of the cathedral as the result of uncontrolled building. The diagram was one of the first fruits of a survey which Mr. Godfrey Allen had undertaken in order to show how great was this particular danger—one of the many that threaten St. Paul's—and also to establish a basis on which some reasonable scheme of building control could be devised. It was realised at the time, and by none more than those who had the work of preparing these surveys, that the formal, and to the general public, unintelligible, terms of a section could never suffice to stir public opinion to a proper realisation of the situation, and from the surveyors' point of view the preparation of innumerable sections was a long and troublesome business, involving projection by methods of doubtful accuracy on to a photograph before any clear demonstration of obstruction could be given.

Since the start of Mr. Godfrey Allen's survey, two things have happened which have both in different ways enormously helped forward his work. The first was the good that came from the ill-conceived scheme to build 100-foot buildings in Abingdon Street, Westminster, which would have almost completely obscured the finest of the few remaining distant views of Westminster Abbey. *The Times* published a view taken from Lambeth Bridge on which had been drafted the approximate form of the proposed building and by that visual demonstration successfully killed the scheme, stimulating public opinion to a clear idea of what was to most laymen quite a new aspect of town planning. The second happening, which is likely to prove of even greater importance, is the invention, described for the first time in this number of the JOURNAL, of a method of projecting accurately, simply and quickly on to any photograph the exact form of any building that it is proposed to erect on any site within the camera's range. We must leave Mr. Waldram to explain the details of Mr. Gordon's device and the particular application of it with success to the problem of St. Paul's Cathedral. As Mr. Waldram says, in his article, the application of the Parallacter scale need not be considered only as a means of preventing the visual obstruction of important national monuments but can be just as well applied to any architect's problems of siting his buildings in relation to their rural or urban surroundings.

SURVEYORS' AND ESTATE AGENTS' PRACTICE CODE.

During the past few months, the efforts of the Surveyors' and Estate Agents' profession to achieve a joint Code of Conduct and Practice have been rewarded by a considerable measure of progress. In October last the Chartered Surveyors' Institution adopted the joint Code, which had been produced as the result of conferences with the Auctioneers' Institute, the Land Agents' Society and the Incorporated Society of Auctioneers. In December the Auctioneers' Institute also obtained an extremely satisfactory favourable vote (amounting to some 83 per cent. of those voting) and finally accepted the code at

an extraordinary general meeting on 16 March. In January, the Land Agents' Society adopted the Code with a single dissentient. Principal clauses in the Code are concerned with the prohibition of sharing commission with persons other than those belonging to the same profession, with restrictions on canvassing, the cutting of commission, and the forming of firms into limited companies, while it is also laid down that no member "shall offer any financial inducement to secure instructions."

The Eustache-Rougevin Designs

The Exhibition of Designs prepared by French and British Students, which was held in the Institute Galleries from 7 March to 14 March, was visited on 8 March by His Excellency the French Ambassador, M. Charles Corbin. His Excellency, who was received by Mr. H. M. Fletcher, M.A. [*F.*] (President-elect of the Franco-British Union of Architects), Mr. W. H. Ansell, M.C. [*F.*] (Chairman of the R.I.B.A. Board of Architectural Education), Mr. Arthur J. Davis, A.R.A. [*F.*], Lt. Col. H. P. L. Cart de Lafontaine, O.B.E., T.D. [*F.*] (Honorary Secretary-General of the Franco-British Union of Architects), Mr. H. Chalton Bradshaw [*F.*], and Mr. E. J. Haynes (Secretary R.I.B.A. Board of Architectural Education), spent some time in discussing the schemes exhibited and the systems of architectural education in France and Great Britain.

This Exhibition was the outcome of a competition organised by the F.B.U.A. and the R.I.B.A. Board of Architectural Education, to be held between students of the Schools of Architecture in the United Kingdom recognised for exemption from the R.I.B.A. Final Examination and students of the Ecole des Beaux-Arts, Paris, the former competing for a medal generously presented by Mr. A. J. Davis and the latter for the famous Eustache-Rougevin prize. The twelve British schemes were submitted to a jury appointed by the Chairmen of the Board of Architectural Education and the F.B.U.A., and were all sent for exhibition to the Ecole des Beaux-Arts before being exhibited over here. This is the first time that an international students' competition on these lines has been organised and it is hoped that it may become an annual event. A criticism of the drawings by Mr. H. M. Fletcher and illustrations of the winning French and English designs are printed on a later page of this JOURNAL.

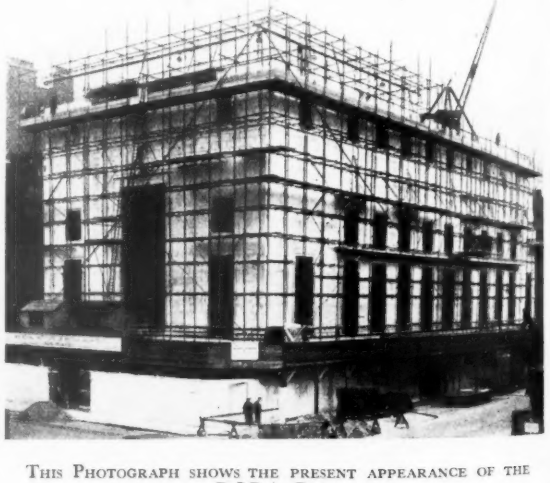
Drawings of Polish Architecture

On last Monday afternoon His Excellency the Polish Ambassador M. Konstanty Skirmunt opened the exhibition in the R.I.B.A. Gallery of wash and crayon drawings by Prof. G. K. Lukomski of Jewish Architecture in Poland. The exhibition was very briefly described in the last number of the JOURNAL and in a future number we hope to be able to reproduce a few of the drawings and publish M. Lukomski's paper which was read after the opening. Unfortunately, the exhibition had to be arranged at such short notice that it was not possible to find more than three consecutive days during which the gallery was free, so that many who might otherwise have wished to see the drawings were doubtless disappointed. At the opening ceremony M. Skirmunt, who was received by Mr. Martin Briggs, chairman of the literature committee, spoke of his great pleasure in coming to the R.I.B.A. since for the last few months he had seen daily the new R.I.B.A. building growing up on the opposite side of Portland Place to his embassy. At the conclusion of the ceremony M. Skirmunt asked to see the Library, his interest having been excited by Mr. Hanslip Fletcher's drawing of it in the *Sunday Times*.

Most members, we expect, will have seen this excellent drawing, which shows the main reading room of the Library in its familiar, and rather dishevelled, everyday aspect. It is pleasant to think that we have been able to have this little memorial to the Institute's time in Conduit Street from Mr. Hanslip Fletcher's skilful pen, and we very much hope that before the actual move he may be able to make a drawing of the outside of the Institute as well. We understand that copies of the *Sunday Times* for 18 March can still be obtained, and also that reproductions of his picture on good paper can be obtained from Mr. Hanslip Fletcher himself.

The Dramatic Society

The first performance of this recently formed society will take place on Monday, 23 April, at 8.30 p.m. Admission will be by programme at the price of 5/- and 3/-. The Society will perform "The Bear," a one-act play by Tchehov, and "The Long Christmas Dinner," by Thornton Wilder, and also a short topical skit entitled "Architect Errant." Programmes can be obtained from the R.I.B.A.



THIS PHOTOGRAPH SHOWS THE PRESENT APPEARANCE OF THE NEW R.I.B.A. BUILDING

THE VIA DELL' IMPERO

The completed roadway, showing in the bottom right foreground the newly-revealed part of Trajan's Forum and the grassy spaces on which Dr. Calza suggests future excavations can be made

THE VIA DELL' IMPERO AND THE IMPERIAL FORA

BY DR. GUIDO CALZA

A PAPER READ BEFORE THE ROYAL INSTITUTE OF BRITISH ARCHITECTS ON MONDAY, 19 MARCH 1934, THE PRESIDENT (SIR GILES GILBERT SCOTT, R.A.) IN THE CHAIR*

IT was during the celebration of the first fifty years of Italian Unity that the idea of isolating and linking up the various Imperial Forums first came into being. At the time it seemed a mere dream, owing to the immense practical difficulties, such as the pulling down of a large number of residential houses, the demolition of streets, expensive excavations and replanning on a large scale, that would have to be overcome. It was, in fact, a question of demolishing that vast inhabited quarter of the town within the old Imperial Forums between the Capitol and the Coliseum—a quarter which had been steadily growing from the middle ages down to modern times.

It represented, indeed, a colossal undertaking, both from the point of view of finance and the vastness of the work to be effected. The pre-war period, moreover, was unpropitious for any attempt to carry out so large a project, and in consequence the scheme prepared by Corrado Ricci and Ludovico Pogliaghi in 1911 remained a dead letter. These two men had made a survey of all that was visible of the Forums in the basements of various houses, and, by comparing their material with the designs prepared by the great artists of the Renaissance, had obtained a marvellous picture of what they thought the locality of the Imperial Forums would look like after the work of demolition had been carried out. And now that all the excavations

*In Dr. Calza's absence the paper was read by Dr. Camillo Pellizzi.

have been completed, the vision which they drew on paper appears to stand very close to reality.

The question may now be asked: has such a scheme, combining the respect due to antiquity with the exigencies of a modern city, ever been attempted in the past? The answer is in the negative, as a brief survey of the architectural history of Rome will show.

After the fall of the Roman Empire, Christian civilisation adapted and transformed to the new cult all the existing pagan buildings, and it may be said that for a period of about a thousand years the Middle Ages lived at the expense of the classical past. Towers, castles and even private dwellings were built of stone and brick taken from the buildings of the ancient city, and as there were no marble quarries in the neighbourhood all the monuments were more or less plundered. Rome had to wait until the advent of Martin V in 1482, the first Pope to conceive the idea of replanning the city, though it was not until the next century that the idea actually took shape. It was during this century that the humanist, Flavio Biondo, dedicated to Eugene IV his book "Roma Instaurata" in which he visualised, as in a dream, the re-birth of the age of antiquity, and that Nicolas V thought out and began the construction of the Basilica of the Vatican. It may be remarked in passing, that Flavio Biondo came from Forli in Romagna, the province which is also the birthplace of Mussolini.

Further steps were taken by Sixtus IV, a great patron of the arts, and by Julius II. The streets at this time were widened and reset and a new street, the Via Giulia, was built parallel to the course of the Tiber, on that ground near the river which had been the centre of Rome in the Middle Ages, in the Renaissance, and up to the middle of the nineteenth century. But it was Sixtus V who considerably altered the aspect of the city. This extraordinary man, though but a humble friar, showed himself possessed of the soul and strength of a Roman Emperor. He created a new centre for Rome and planned a part of the city in so admirable a fashion that even to-day, after three and a half centuries, it answers perfectly the needs of a modern city.

It is to him that Rome owes the great streets which run between S. Maria Maggiore and the Pincio, between S. Maria Maggiore and S. Giovanni and between S. Giovanni and the Coliseum. He repaired the Vatican, started the building of the Quirinal, constructed the Lateran Palace and raised the great obelisks of ancient days. Lastly, towards the end of the sixteenth century, many of the princely palaces came into existence.

The successors of Sixtus V respected his plan, so that up to the end of the eighteenth century the city remained almost unchanged, though within that plan the great architects of the Baroque period gave free play to their imagination. Indeed, at the time when Rome became once again the capital of Italy, the conditions of the city were practically the same as they had been in the seventeenth century, and it must be confessed that, in spite of the many projects that were prepared for further development, for a long time nobody seemed to have any clear vision of what the future Rome should be.

In more recent years, modern Rome clumsily adapted itself to live alongside, and practically to overwhelm, the ancient city. On the other hand, because during the whole of the nineteenth century Rome had undergone no appreciable transformation, the feeling had originated that the city was not only sacred but intangible: sacred, not only because of the might of her history and her high function in both the pagan and the Christian world, but for the unforgettable memories of beauty, greatness and serenity that Rome leaves in the soul of all who have known and understood her; intangible, because the threefold fascination of her history, her life and her poetry seemed to bind men in an almost religious respect for each one of her streets and for each of her houses, just as if each building were a monument, each curiosity a document. And as, in Goethe's beautiful words, "In Rome every man finds his ideal home," so everyone, the foreigner no less than the Italian, felt it his duty to make suggestions and to give advice, to criticise and to argue, each time the needs of modern life led to the construction of new buildings or the demolition of the old ones. Indeed, everything modern disturbed the admiration or offended the enthusiasm of the world's citizens who were, in their own right, no less the citizens of Rome.

It was asked, what interest can a new building like the Italian Houses of Parliament have for anyone so long as there are the ruins of the Curia? Or the Opera House when there is the Theatre of Marcellus? Or newly made roads in Rome when there remain the Via Sacra and the Via Appia? Because of her past, modern Rome was developing slowly, fighting against sentimental, moral and material difficulties, yet urged by the desire, as the capital city of a

nation of some forty million inhabitants, to quicken and develop its own expanding life.

It was necessary, therefore, in this matter as in so many others, to proceed with the same "bersagliere" quick-step which has been, and still is, a characteristic of so many acts of the Fascist government. The words of the Duce were clear:

"We must free," he said, "ancient and mediæval Rome from all mediocre disfigurement; we must create the monumental Rome of the twentieth century. Rome must be a city worthy of its own glory. And this glory must be renewed incessantly so as to hand it down to future generations as the heritage of the Fascist Age."

And in truth, by carrying out the programme proposed by the Duce, the Third Rome is being transformed into the Fourth Rome. If it be granted that the chief beauty of Rome is given her by her ancient monuments, then the bringing of these to light was the right method for beginning the transformation of the city. In consequence, the classical monuments have not been considered as set apart from daily life, nor relegated almost to a distance, as was the case with the area constituted by the Palatine, the Roman Forum, Coliseum, Triumphal Arches, the Caracalla Baths, the Passeggiata Archeologica, planned by that great Roman citizen the late Guido Baccelli.

To-day, modern life comes into contact and runs its course side by side with the ancient monuments. Until three years ago, the traveller arriving in Rome and proceeding from the station to S. Peter's, although he crossed half the city, never encountered any of the classical monuments. But now, through the Via Nazionale, he can see the majestic ruins of the Hall of Trajan's markets and from the Piazza Venezia he can have a view of the Basilica of Constantine and of the Coliseum. And half way down the Corso Vittorio he is suddenly confronted with the four temples of the Republican period in the Argentina zone, which have opened for us a new page in the topography of ancient Rome. Before their excavation, we only knew a part of the colonnade of a Round Temple attributed to Hercules the Custodian, and the podium of a rectangular temple near and below the Church of S. Nicolo dei Cesarini.

Recent excavations, however, brought to light a third Temple and then a fourth and in front of them, in perfect condition, the pavement of the square on to which they opened and which formed a kind of Forum or sacred area. Although the study and examination of this particular group are not yet complete, it can already be stated that the buildings in this monumental zone date from a fairly remote period of the Republican era, as is shown by the style of the buildings and by the depth of the foundations of one of the temples. The most recent of these temples so far seems to be the round one, which was afterwards raised higher than its original foundations.

Although the problem has attracted the interest of many learned men and much time has been devoted to its study, it has not been possible, up to date, to name any of these temples with any degree of certainty. While a fragment from a statue of Hercules would seem to confirm the tradition of a cult of this divinity, the head of a colossal simulacrum of a warlike feminine deity points rather to the view that a sanctuary to Bellona existed here.

The interest of this discovery, however, consists in the recovery of a piece of Republican Rome consisting of four temples of a period of Roman architecture of which very little is known even to-day. To these discoveries must be added a graceful tower and a small porch dating from the Middle Ages.

It has been no easy task to harmonise these ancient buildings with their modern environment, especially when these monumental remains were found in a state of ruin, but in nearly every case the difficulties have been overcome and a satisfactory solution found. Naturally it has not been possible to adopt any sort of standardised method for this adaptation, and it was necessary to devise different systems according to the nature of the monuments and the various localities in which they were placed.

In the case of the Theatre of Marcellus, for instance, formerly smothered by modern constructions and so concealed that its classical character was practically lost, the first thing that was done was to reopen the lower arches, which had been used as coal shops, and to bring the neighbouring ground down to its ancient level. And if the superstructure of the historic Savelli-Orsini Palace (though beautifully placed over the higher arcades) made it impossible to bring the *Cavea*—four-fifths of which remain intact—into view, all the old buildings have been isolated and now produce an impression of grandeur similar to that which the Romans knew. We have thus almost entirely reintegrated one of the most important monumental examples of that Roman architectural innovation which was later to give us an infinite number of theatres and amphitheatres, built on flat spaces, foremost amongst which is the Coliseum itself.

The work of restoration has brought to light all the accesses to the various parts of the theatre; flights of steps, *ambulacra* and *vomitoria*, including the principal

THE THEATRE OF MARCELLUS. *c.* 1750
From Piranesi's *Le Vedute di Roma*

THE THEATRE OF MARCELLUS
Showing the curve of the Via del Mare

vomitorium in the *cavea* which, like the one in the Coliseum, was decorated with stuccoes.

The existence of a third order was also ascertained in the curved front of the theatre; this order was Corinthian. This is the theatre so charmingly situated between the Tiber and the Capitol, which was begun by Cæsar, the great transformer of Rome, and finished by Augustus in 11 B.C., who dedicated it to Marcellus. Near the theatre came to light the nucleus of the very high podium of the Temple of Apollo, with two columns, almost intact, in addition to piers, capitals and fragments of the entablature carved with unparalleled gracefulness of form and style. These are perhaps the remains of the temple as it was rebuilt in 34 B.C. by Sosius, Anthony's Consul and General, in which stood four statues of Apollo and statues representing the sons of Niobe. It was a famous temple in which many sittings of the Roman Senate were held, as is shown in the "*Fasti*" by the words "ad theatrum Marcelli."

In a better state of preservation are the other four temples of the Forum Holitorium, the market for agricultural products, which under the Republic was an elongated square, cut through by a street which ran parallel to the Tiber and connected Campus Martius with the Port and the Emporiums and also with the Circus Maximus and the Velabrum. At the foot of the Capitol ran the porticoes for the sale of vegetables, and in front of these porticoes were erected, one after the other, the temples dedicated to Janus, Juno, Hope and Pity.

All that is left of the substructures of the Holitorium Forum has been explored and surveyed and the most important parts of the ruins emerging from the street level have been isolated and restored. Of the three temples of the Republican age, on which the Church of S. Nicola in Carcere was built, the columns were entirely hidden ; but these colonnades have now been cleared and one of the *podia*, namely, that of the Ionic Temple nearest to the theatre of Marcellus, has been completely isolated. Later, the Doric Temple, on the opposite side, was also isolated.

So much, then, for the Roman monuments.

But, as life on this small plain, situated between the Capitol and the Tiber, and within this ancient Holitorium Forum, has never stopped, great care had still to be taken to respect and to reintegrate the architectural remains of the Middle Ages.

This association of the ancient and the Mediæval Rome, which has given to the city a totally new aspect, even more suggestive and picturesque perhaps than in the days of Piranesi or Pinelli, could not have been more successfully effected. The group of houses near the Portico of Octavia and in the Via della Bufala has been suitably repaired, and also a graceful mediæval building of the twelfth-thirteenth centuries, adorned with pleasing *triforia* and arched windows, by the side of which rises up a high tower, forming a counterpart to the tower of the Church of S. Nicola in Carcere. These have as background the green slopes of the Capitol, a veritable acropolis of the ancient and modern city, which, with the bare spearpoint of the Rupe Tarpea in red tufa stone, dominates the square and the street that leads from the Vittoriale, through the Forum Boarium to the sea, which has once more become the Lido of Rome. This whole monumental group is like a history book, the illustrated pages of which lie open for the passer-by to read.

On this particular site one feels that the pulsing life of the Rome of to-day reanimates the forms of her past, uniting them and making them live again in the warmth of her sun. Rome to-day is so alive that she can accept and assimilate modern tastes and customs and so mingle them with her own interior life that, out of this assimilation a work of beauty can arise, without interruptions, without discordances. Rome melts in her magic crucible all the centuries, from the Etruscan Age to the ultra-modern twentieth century. It would seem as if for Rome, the eternal city, there were neither past nor present, but one single song of beauty and truth. And within this monumental framework nothing is too magnificent, nothing too colossal; its greatness can be judged by the sentiments it inspires in us.

The word *ruins* here acquires its full significance; it is as if eternity itself were reflected in us, filling us with the sense of wonder and gratitude. Earthquakes, fires, lightning, the effects of time and even the barbarous acts of men, all, in fact, that has befallen these Roman relics, impresses us with its imposing majesty; the superb resistance of these silent stones, of these colossal skeletons of monuments and buildings, still possessed of part of their marble decorations, seems almost a miracle. They appear indeed as the work of some deity. And as nothing in the past has been able to triumph over them, we may look upon them now as safe for ever, above and beyond all human disaster. Nothing now can bring about their disappearance; they have become and will remain eternal images of our past strength and our present piety.

On this road to the sea which, by means of further demolitions will be prolonged to the Forum Boarium,

THE FORUM BOARIUM
Showing the Temple of Vesta to the right

and where the Temple of Jupiter, of Vesta and of Fortuna Virilis, between the Capitol and the Tiber, have already been restored, the Republic, the Empire and the Middle Ages all mingle and superimpose their monumental evidence right up to the foot of the Ara Coeli steps, where a five-storied Roman house has been found. Beyond the Capitol, right up to the slopes of the Quirinal and from the Quirinal to the Esquiline, the Empire reigns in triumph.

It is at this point that, through the construction of the Via dell' Impero (Imperial Way), the admirable conjunction of the Imperial Forums—from the most ancient ones to the most recently discovered, from the Roman Forum to the Forum of Trajan—has been effected. The very wide thoroughfare which cuts through them does not in reality appear so much to divide them as the better to allow a magnificent and solemn view of them. This view is brought to a close at the southern end towards the Esquiline, by the most complete and significant monument of pagan Rome, the Coliseum, beyond which, dominating the horizon, is the outline of Monte Cava, the cradle of the primitive Latins, while on the opposite side the Vittoriale, the monument most dear to all Italians, seems to connect the old world with the new, the fallen Empire with the Kingdom of the new Italy revived by the victories and the wisdom of Rome.

I shall not speak here of the Roman Forum, though, owing to the new adaptation, parts of it also overlook the Via dell' Impero; nor of the imposing Basilica of Maxentius and Constantine; nor of the daring perspective of the columns of the Temple of Antoninus and Faustina and the restored Curia, above which the dark tops of the centuries-old cypress grove on the Palatine Hill rise in the blue sky over the white columns and ruins of the Forum.

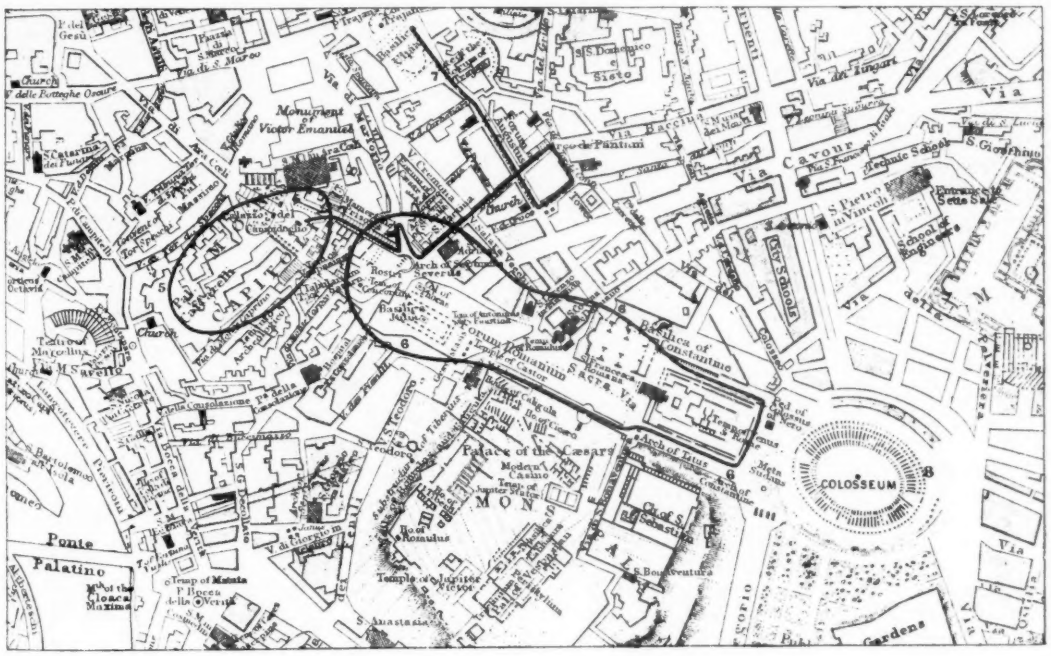
The entire Forum, by having been placed in contact with the centre of a modern city, appears to have regained the importance it enjoyed in the past.

It seems, indeed, as if the Italian Senate might still hold its sittings within the Curia, whose severe front has again been revealed, while the three internal flights of steps, on which the senators sat, are in course of restoration. The Curia almost marks the limit of Cæsar's Forum, archæologically speaking, perhaps the most important, and certainly the most unexpected, of all the discoveries which the new street and town planning of Rome has brought to light. Of this Forum only fragments of the arcades were known to exist, and these were encased in old and dilapidated dwellings in obscure little streets at the foot of the Capitol, known to few and generally overlooked both by guides and tourists.

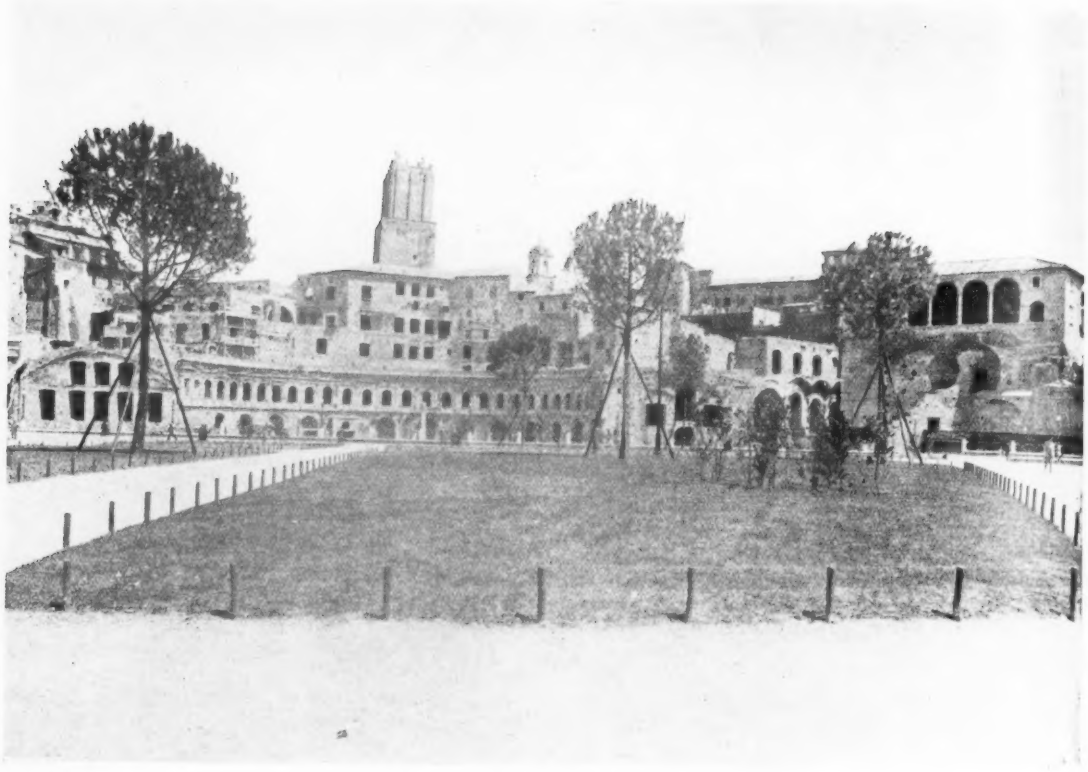
To-day, in place of that unsightly view, we have before us a long series of two-storied tabernæ, which receive light from large, almost square, doors, over which stands an intermediate storey with windows broader than they are high. The doors of the tabernæ and the windows of the intermediate storey were finished on top by an architrave formed by ornamental bands of tufa with one of travertine (Tivoli stone) in the centre.

The Tabernæ are of various dimensions; the lower part built by Cæsar, the vault by Trajan. The whole construction is of gabina stone (lapis gabinus), tufa and travertine, and undoubtedly was once faced with marble. In the clear space in front of the Tabernæ there are traces of a two-storied colonnade parallel to, and contemporary with, the building of the Forum, of which it formed the two internal sides.

The Forum, on the other side, was closed by the Temple of Venus Genitrix, which Cæsar had vowed to erect in Rome as far back as 48 B.C., and near the Temple there came into view, most unexpectedly, what was later identified as the Basilica Argentaria, mentioned in the Regionarii Costantiniani as standing in this very place. It did not contain the workrooms or shops of the silversmiths; the word Argentarii in this case must be taken in the sense of bankers and money-changers who met in this Basilica and on the sloping banks which formed its background, or in the large open space on to which it opened, for the transaction of their business, in direct contact with the great crowded Forums. The old money-changers had here their exchanges, and



A Plan showing the remains of ancient monuments visible at the end of the Nineteenth Century
By permission of John Murray



A General View of Trajan's Forum

Showing the hemicycle cut into the hillside and built up with shops; above the shops rises the Torre delle Milizie, and on the right is the Loggia of the Knights of Rhodes

Trajan's Forum

The Shops and the Torre delle Milizie

judging by the various changes and the many modifications made in the building that housed them, they, too, must have felt the unsettled conditions of the times and of their own profession. Yet from all this tortured construction, which dates back as far as Domitian, a poetic and peaceful note arises from the walls, and from the very ground itself: a multitude of mural inscriptions, names, verses, in which Virgil is often mentioned, proves that some schoolmaster imparted here his learning. Further on, within the first two archways of the central nave of the Basilica Argentaria, fragments of precious marble paving were found; this seems to prove that in the sixth and seventh centuries a humble Christian chapel (*sacellum*) found a shelter within these ruined structures.

The name of Virgil and the exalting of God unite here the pagan and the Christian worlds; and the new glory of the latter is sung by the beautiful dome of

the Church of S. Lucas and S. Martina, which stands at the outer limit of the Forum. This church also has been well restored.

New marvels were disclosed on this same site with the discovery of the Temple of Venus Genitrix, the three beautiful columns and parts of the magnificent entablatures of which have now been restored. We do not, however, actually see this Temple as Cæsar built it, but as it was rebuilt by Domitian and Trajan. From the *Annals of Rome*, which I happened to find in Ostia, we learn that the Temple was inaugurated by Trajan himself on 12 May A.D. 113.

How singular are the coincidences of history. Just as in that particular year the Romans saw the simultaneous inauguration of the reconstructed Temple of Venus and of the new Trajan Columns with their numerous trophies of the Dacian victories of the *Optimus Princeps*, so this year we have witnessed the reconnection of Cæsar's Forum, completely buried until to-day, with Trajan's Forum, of which only a few columns were formerly visible.

This is the Forum that so astonished the Emperor Constantius when he came to Rome in 356, and such was its magnificence that it gave rise to the legend that St. Gregory the Great, in consideration of the grandeur of the works left by Trajan, asked and obtained from God that his soul should be freed and admitted to Paradise. The decay of this Forum begins with the year 663 when Costante took away, together with some bronzes, the statue of Trajan which had been erected on top of the column; earthquakes and plundering soon reduced it to a mass of ruins. Not until after the year 1000 were churches, oratories and houses again built on the site, and these, moreover, far from preventing it rather increased the state of decay into which it had fallen, vainly deplored even by Michelangelo. It was not till 1812 that the French government of Napoleon cleared a space around the column and the square in front of it and erected the fragments of the columns belonging to the Basilica Ulpia which had been found during some work of excavation.

This partial readjustment gave but a faint conception of the magnificence of the old Forum, sumptuous in all its parts, decorated with statues, reliefs, scrolls, cornices, capitals; abounding in arches, porticoes, temples, halls and having more than three hundred pillars and gigantic columns.

The column, which we see standing free to-day, originally arose within a small rectangular area surrounded by the Basilica Ulpia, the Greek and Latin libraries and the Temple dedicated by Hadrian to the divine Trajan and Plotina his wife. The Forum proper was a vast square surrounded by porticoes, having in the centre the equestrian statue of Trajan and two large hemicycles at the sides. Facing the entrance opposite to the Triumphal Arch which was towards the Forum of Augustus, was the Basilica Ulpia, with its five naves built transversely in the manner of an immense transept. But until recently all this space was covered by miserable huts and vegetable gardens.

The architect of this Forum was Apollodorus of Damascus who, in order to find a level site for such a huge group of buildings, was obliged to cut away the slopes of the Quirinal, which, on its western side, almost reached to the Capitolinum. From this cut originated a happy architectural inspiration, which consisted of the eastern hemicycle supporting the hill thus cut. Rather than put up buildings of no practical utility, the architect preferred to build a market with the shops in a semicircle, so as to support the slope, while the higher stories acted as a buttress. This solution was found to be all the more useful as the adjacent quarters of the Subura and Quirinal had been left without shops owing to the monumental construction of the Forums of Augustus, Nerva and Trajan.

The market is placed on the ground level in a semi-circular design, and comprises eleven shops on the ground floor, with posts and architraves in travertine, each with a small window over it to give air and light when the door was closed. The upper floor of the market, which was, and still is, reached by two staircases, one at each end of the hemicycle, contains 21 shops. Following the staircases, the old internal street is reached called the Via Biberatica, a corruption of the name Piperatica (street of the druggists), with two lines of Tabernæ, facing one another, and on the right hand is the great covered hall for the transaction of business, on to which opens another series of 24 Tabernæ. On the other side the market extended towards the Salita del Grillo and the westward side of the hill where, in the thirteenth century, the Torre delle Milizie was built. Altogether there are 150 shops in this magnificent market, which is still accessible from five different points. This immense construction is all in red brick, not plastered, but carefully finished off, so that even in ancient times, when it constituted the background of the beautiful marble Trajan Forum, it must have given a harmonious touch of colour. Today this concentric hemicycle at the apse of the Forum presents a magnificent sight. It covers the entire slope of the Quirinal, over which dominates the solid Torre delle Milizie,

THE SHOPS OF THE VIA BIBERATICA. *See page* 497

almost as if protecting its smaller sister, the Tower of the Grillo. These towers and the medieval and renaissance houses which arose on the high ruins of the Tabernæ express not only the continuity of history but also that of Roman buildings throughout the centuries.

These ruins give monumental evidence of the ability of ancient Romans in solving architectural problems; they also give us a picture of daily life in the central markets of Rome at the time of Trajan. Less complicated in its lines and in the masses of its buildings, but more severe, is the nearby Forum of Augustus, dedicated by the Emperor two years before our era, without waiting for the completion of the Temple of Mars Ultor, which was to be the principal part of it.

What was known of these buildings before the present work of excavation and restoration? There was the high wall, measuring 33 metres, made in blocks of peperino stone (lapis Albanus), which towards the east protects and surrounds the irregular area of the Forum itself. But even this wall was seen principally from the outside, for on the inside it was occupied by the houses and convents which faced the Via Alessandrina.

To-day that wall has once more regained its original function, which was not only that of delimitation and defence, in case of fire, but also that of hiding a mass of unsightly houses, an unsightliness which still exists in part in the present Via de Tor di Conti and the Via Baccina.

This wall encircled the Forum sideways with its two arms, or if you like, its two hemicycles, in the niches of which were placed the statues of the founders and governors of Rome, both mythical and historical. These two hemicycles still look on to two streets flanking the Temple and the square before it. That to the southward led to the Arch of Germanicus and the one to the north to the Arch of Drusus. Both were built at the time of Tiberius, and of both traces have been found. The surrounding wall opened with an arch which was later called the Arco dei Pantani (arch of the marshes), the name itself bearing witness to the marshy nature of the ground before later buildings covered it.

Until recently, with the exception of part of the lower wall of the southern hemicycle, and of the three columns of the Temple, nothing was to be seen of this great and magnificent Forum. Today, however, all the stylobate of the Temple of Mars Ultor, part of the stairway and the peristyle, part of the cella and the wide steps of the apse where the group of statues representing Mars and Venus stood, have been exposed to view. Further, in front of the hemicycle, two halls decorated by a row of columns and pillars and crowned by a magnificent entablature have been found. This entablature is surrounded by a sub-divided attic with caryatides, alternating with windows and cups, and having in the centre a head of Jupiter Ammon. On the eastward side of the northern hall an unexpected and important discovery was made of a room, almost square, paved with different coloured marble and ornamented on three of its sides with grooved bands and corinthian capitals.

The accurate recomposition of all this has given the room once more the stately aspect of the original, and it appears safe to attribute it to the time of Tiberius. The Forum of Augustus was in fact completed and perfected after the death of the first Emperor. This same room contained a marble colossus, perhaps an image of Augustus himself, holding a lance in his right hand, and about nine and a half times natural size, entirely empty inside.

Of the two hemicycles, the best preserved, with

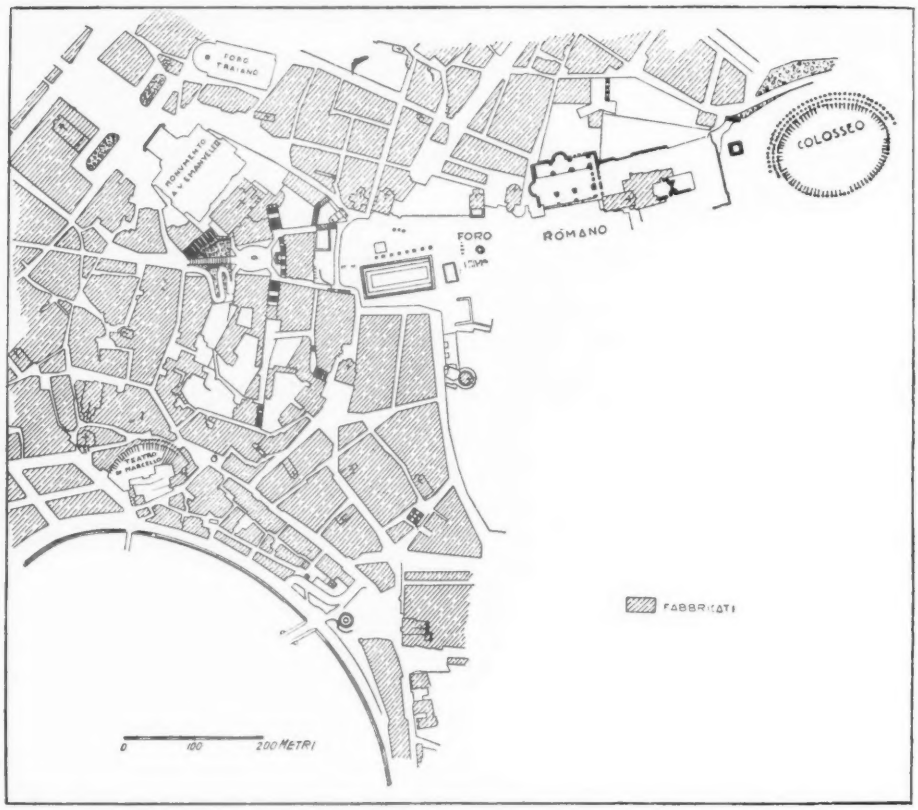
THE FORUM OF AUGUSTUS

part of the higher niches still intact, is the southern; the niches of the other hemicycle have completely disappeared owing to the construction of the House of the Knights of Rhodes. All architectural traces of the Middle Ages have thus disappeared from this place, but the elegant loggia of the Knights of Rhodes still exists as a jewel representing the elegant style of the fifteenth century. The Knights, it appears, came to Rome as far back as the thirteenth century, settled in the Forum of Augustus near the Basilian Monks, and erected as their residence a Roman building near the Via di Campo Carleo; this was afterwards rebuilt and embellished when the loggia was erected, under Paul II and Maro Barbo, cardinal of St. Mark and administrator of the House of the Knights.

In the great room of the Chapter there are still to be seen pieces of a handsome frieze; and the decoration of the loggia is larger, more picturesque and original.

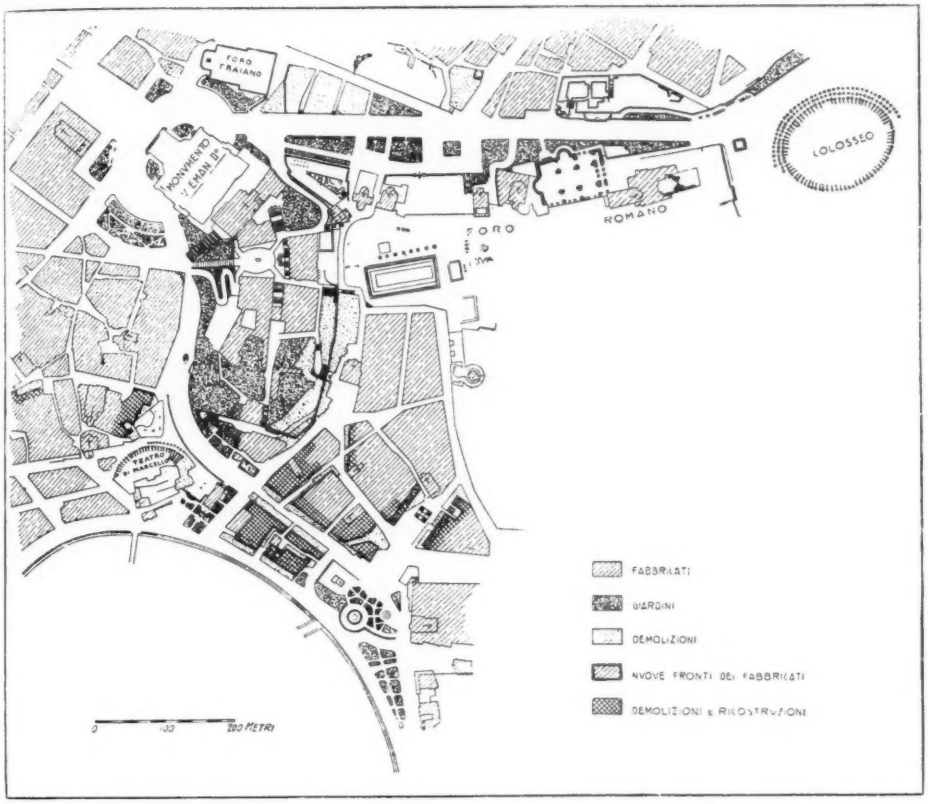
Forty thousand cubic metres of earth have been cleared away during the work of pulling down and readjusting this Forum. The figure will give some idea of the amount of work accomplished, but it is impossible to reduce to mere figures the magnificent impression one receives from this complex of monuments, which brings to mind the glorious exploits of the foundation of an Empire, which, initiated by Augustus himself, rose to a glory that the whole world honours.

Not even the designs prepared during the Renaissance period by Peruzzi, Sangallo, Vignola, Sansovino and others, could give any intimation of the glory that was Rome, for they had never seen what we are now privileged to see. To-day the vision is completed by the Forum of Nerva, that is to say by the space over which one could once descend from Subura to the Roman Forum, and which Domitian thought of making into a Forum, to be completed later in the brief reign of Nerva.



THE SITE OF THE VIA DELL' IMPERO AND THE VIA DEL MARE BEFORE WORK WAS STARTED

Plan and Photograph reproduced from *Architettura*. March 1933



VIA DELL' IMPERO AND VIA DEL MARE

Plan and Photograph reproduced from *Architettura*. March 1933

THE VIA DELL' IMPERO

A view taken from the Victor Emmanuel II monument, looking towards the Coliseum, during the work of excavation
The headpiece shows the completed road from approximately the same view point

The only part that remained exposed was the so-called Colonnacce of the Temple of Minerva, which by an unjustifiable act was demolished in 1606 by Paul V in order to use the columns for the construction of the fountain by that name on the Gianiculum.

To-day's excavations in this Temple have revealed part of the stylobate, a street and the remains of an arch under which the street passed, called in the Middle Ages Noah's Arch, and in the lower levels, two incineration tombs, amongst the most ancient ever found on Roman soil, belonging respectively to the eighth and ninth centuries B.C.

At this particular point of the Via dell' Impero the eye gazes freely from the hills of the Palatine to the summit of the enclosure of the Augustus Forum, which offers majestic scenery: from this point the Coliseum regains its proportions, though slightly altered by the extreme width of the new street: from here the imposing size of the Basilica of Constantine, with its enormous arcades opened, dominates the ruins of the Forum and reveals the leafy background of the Farnese Gardens.

There appears the apse of the Church of St. Cosma and St. Damiano, where the town plan of ancient Rome, engraved on marble at the time of Septimius Severus, was fixed; a little further on there rises, majestic in its isolation, the Temple of Antoninus and Faustina turned by Christianity into the Church of San Lorenzo in Miranda.

It might not be amiss to mention here that the Via dell' Impero has not been made for purely archæological and æsthetic reasons, but also for practical ones.

There was, in fact, a lack of direct communication

between the Piazza Venezia and the Coliseum, and, therefore, with the Caelian, Esquiline and Lateran quarters. The new street, therefore, is above all a street necessitated by the traffic requirements of the modern city. For this reason it had to be speedily built and was made to follow a short, wide but direct route. The solution adopted in planning the new street is not merely, as is generally believed, a solution suggested by archæological reasons, or directed towards archæological aims, but is largely a practical one. It is a modern street which also endeavours to give value to the remains of the Imperial Forums and monuments, and to give a panoramic view of them which, in some particular spots, is superb. It is true that the road passes over one side of the extremely large Trajan's Forum; that the boundary line between the Forum of Cæsar and that of Augustus remains unknown; and that nothing is known of how much of the Forum of Nerva is hidden under this street: yet, to excavate that vast zone now occupied by the new street, to decide its plan on the basis of what might have been found there of archæological interest, and to make the new street pass over the ruins like a suspension bridge, would have been an exceedingly costly and difficult undertaking, and would have required in addition many years of work. This does not mean that partial researches cannot be made here and there in the substructure of the street itself in order to see what is hidden. For instance, on the sides of this street grassy patches with shrubs have opportunely been left in places which will allow of future excavation work being done. This was done in the case of the Temple of Venus Genitrix, which was unearthed and restored after the street had been made. But what is undoubtedly certain is that with the new street we have gained much more than we have lost, and that we have brought to light much more than can have remained hidden. In fact, two-thirds of Trajan's Forum has now been discovered, and the part that remains hidden is the more ruined portion. The Forum of Nerva, too, has been much damaged by the demolitions of ancient times, and very little of any value would now be found there. As for the Peace Forum, we know that it was heavily damaged during the Middle Ages by an earthquake when "*per dies septem terra mugitum dedit.*"

It can be said quite safely that nothing of any importance has been lost in the planning of that part of the street which passes through the valley of the Forums between the Capitol and the Quirinal, and the same thing applies to the other half of the street which rendered necessary the cutting through of the Velia rise between the Palatine and the Esquiline. This rise, which formed the southern boundary of the

THE VIA DELL' IMPERO
Another view during the excavations, taken from the Coliseum looking towards the Capitol

Imperial Forums, had been almost entirely occupied in the sixteenth century by the Villa of Cardinal de Medici, which later became the Villa Vivaldi. This Villa with all its buildings and gardens had already been the cause of the destruction of all the ancient structures which stood there, not only those of the Republican period, which had already been interfered with by the Imperial villas that followed them, but also the buildings of the Middle Ages which had been raised over the previous constructions. So that the levelling of this rise has not caused the loss of any important building, but has rather allowed the carrying out of a topographical and archæological survey of this most important zone of the ancient city.

What, in effect, are the archæological, æsthetic and practical results obtained by constructing the new Via dell' Impero?

The demolition of a district composed of small dilapidated dwellings, having no historic or æsthetic value whatsoever, has transformed this centre of the city into a beautiful monumental zone, which had hitherto been hidden and abandoned. No one, certainly, will regret the disappearance of this labyrinth of small streets, with little air and still less light, which intersected the immense area of the Imperial Forums. As compared with that loss what a tremendous gain we have made, not only for Romans and Italians, but also for the citizens of every nation who recognise in Rome their common home and the origin of their civilisation. The Via dell' Impero does not only represent a convenience to the city and therefore a work of local character, but an undertaking of which all the descendants of Rome may be proud.

Beyond Piazza Venezia the hemicycle of green shrubs from which the Via dell' Impero opens offers to the view the magnificent scenery of Trajan's Forum and markets; on the right, and round the slopes of the Capitol, we see Cæsar's Forum with its arched Tabernæ, the porticoes of the Basilica Argentaria and the Temple of Venus Genitrix. Further on, the Forum of Augustus is faced by the Roman Forum with its Temples and its arches, crowned on the Palatine Hill by the dark green of its centuries-old trees, and by the Baroque Chiesa of S. Luca with its exquisite dome.

The archæological results also are most important.

Firstly, having reached the prehistoric strata, an incineration tomb belonging to the first *Latial* period was found, as well as a series of wells without linings, similar to those found in the area of Vesta. With this discovery and the two archaic tombs found in the Forum of Augustus, a new page has been added to the scanty chapter on the origins of Rome. Furthermore, the finding of the colossal remains of an *elephas antiquus* in the quaternary strata on the Velia takes us back to times almost as remote as the biblical chaos.

To confirm the fact that since the remotest time roads have passed over this Hill, a discovery was made of a sort of little chapel, one of the many *compitalis* shrines placed on the *compitum*, or at the crossing of the four principal streets of each quarter of the city. The inscription on the epistyle gives the name, already known, of *Compitum Acilii*. This will be re-composed with its own marble and placed near to the place where it was found. Other discoveries were of negligible importance. It was ascertained that the Villa Vivaldi (sixteenth century) was supported by a niched wall and the same orientation as a Roman villa of the first century of our era. Of this there were left a few cryptoporticoes and nympheums, decorated with pictures which have been carefully detached. But on the whole, the excavations have shown what innumerable and harrowing vicissitudes have befallen this part of Rome; constructions, which in a short space of time were cut through, destroyed and cut over, streets interrupted and their course changed. The vicinity of such important centres as the Forums and the Ampitheatre clearly explains this state of things; it explains also why, during such large displacements of earth, no works of art have been found: the crop had been gathered during the excavations of the past, and the marble decorations of the beautiful villas built during the Republic and the Empire had been plundered and broken up to be used in the building of Villa Vivaldi.

The most tangible result of the excavations, therefore, from an archæological and artistic point of view, has been the bringing into view of the rear of the Basilica of Constantine, which was half buried by the vast terraced ground and which has now been fully exposed. It was known that between the Basilica and the Hill there ran an ancient road: it had been seen by Piranesi and later by Lanciani. This street, 6.50 m. wide, has now been opened up and follows the curve of the apse, being delimited by a strong wall with large decorative niches which have also been opened up.

The problem of communication towards the Coliseum had therefore presented itself to the ancient Romans who had solved it by means of a street 7 metres wide. To-day, the Via dell' Impero is 30 metres wide, 20 metres of roadway and 10 of pavement.

The Coliseum, which at the time of Sixtus V it was thought should be cut into two parts so that a road might be opened through it, has been surrounded by two roads which meet at the summit to continue on one side along the Appian Way towards the Alban Hills, and on the other side through the Porta Ostiense, the most beautiful gateway of Rome. This, too, has undergone restoration.

In conclusion let me say that in order to appreciate the Via dell' Impero to the full, and to feel it in all its beauty and magnificence, it must be viewed not only with the bodily but with the spiritual eye. It is a truly Roman road, because it passes through the finest monumental relics of a great empire, and thus synthesizes in one single vision the Imperial *Romanitas*. But it is no less an Italian road, the road of a modern nation which joins modern initiative to the cult of her past.

Only one modern palace will be built in the near future on this road, and all Italian architects are called to compete for the plans of the Palace of the Littorio and of the Fascist Revolution, which is to be built at the beginning of the Via Cavour. It is a difficult task, and one that presents an architectural problem of the highest interest, inasmuch as this twentieth-century building will be close to and must bear comparison with the architecture of Imperial Rome. Perhaps never before has a more solemn subject been submitted to the mind of an artist. It is not a question of building in a new environment, but in a centre of ancient monuments. Let us hope that the result will be worthy of this environment, where so many beauties of ancient Rome have been brought to light again, an environment which inspires us, not only with a sense of humility towards the works of the past, but also with feelings of optimism and of faith in the future.

VIA DI S. GREGORIO
The new road running from the Coliseum towards the Porta S. Paolo

Vote of Thanks and Discussion

Professor J. W. MACKAIL, LL.D., P.B.A. [*Hon. A.*]: Mr. President, ladies and gentlemen, it is difficult, as you will all recognise, to make any comment upon a paper so exhaustive in its detail and so wide in its scope as that to which we have just had the privilege of listening; but it is probable that it was for that reason that the President and Council determined that the pleasant task of moving a vote of thanks should be placed not in the hands of an architect, but in those of one who could take a more detached, if a more superficial, view of the whole subject.

I shall not endeavour to recapitulate any of the matters which Dr. Calza's paper has dealt with. Certain inferences from them, and suggestions arising from them, I will, however, briefly endeavour to put before you.

The main subject of the paper was the rebuilding of Rome in the Early and Middle Empire—that is to say, roughly speaking, in the first and second centuries of our era—in connection with the rediscovery and restoration of the splendid remains of that marvellous period, the period in which Rome took her place as head of the world, as its mistress and queen: *caput mundi, domina et regina*. Rome still remains so to the present day, and, as citizens of the civilised world, we, like all others, are in some sense, in our own right, citizens of Rome, children of that mother.

The main subject of the discourse had reference to the construction of the Via dell' Impero, that great new road linking up the whole range of the Imperial Fora, from the Forum of Trajan, with its noble column, at one extremity to the Coliseum at the other end. The construction of these Fora went on over a period of 150 years; it will not be, I think, until 150 more years have passed that people will be able to realise fully, and to appreciate finally, the effective value of this new great thoroughfare, and of the light that is thrown by it as well upon the actual state and ideals of Italy as upon the condition and the achievements of the ancient Rome of which she is the inheritress. From the column of Trajan and the Forum surrounding it, onwards along this new thoroughfare, past the unparalleled structure of the Coliseum, past the magnificent Baths of Caracalla, and outward through the Porta San Sebastiano, along the Appian Way, every inch of the ground is crowded with history and saturated with tradition.

There will always be some who will be critical of, and even deprecate, changes in a great city, even when that city has been left in ruins. More than fifty years ago, when I made my acquaintance with Rome for the first time, the Palatine and the Forum were largely an unexplored wilderness. The Ludovisi gardens, the most beautiful in the world perhaps, were still there; they have now long been built over. Outside the walls the Campagna began almost at once; the great modern suburbs on the right bank of the river were still the Prati di Castello, vineyards and market gardens. On the other side of the city there was hardly anything beyond the gates of the Aurelian Wall. The Ghetto was under sentence of death, but still was there, gaunt and horrible, and the Tarpeian Rock has only recently been reinstated in its grim significance. Even the little things which have been altered cause a slight pang to one who lived much in those earlier days. It was not without some shock of regret that I found that one of the streets with which I was most familiar, the Via Angelo Custode, had disappeared, had been merged into another thoroughfare.

But these are small things. What strikes one, on the whole, on revisiting Rome after fifty years is the enormous improvements which have been made in all directions, and incidentally to this, though linked up with it, the immense increase of our knowledge of Ancient Rome and Mediæval Rome, and, beyond both of these, of the continuity of Rome throughout the ages, right on from prehistoric times to the present day. The tentative attempts at reconstruction and excavation which began after the occupation of the city in 1870 are now at last in course of fuller accomplishment. The city now, besides its noble suburbs, has a nobly reconstituted centre, and we may congratulate the Italian Government and the Italian nation on the felicity with which the present regime has faced the double task of the creation of a great modern capital and the disentombment and resurrection of an unparalleled past. It is a new thing in history.

The paper made, I think, passing notice of Biondo's *Roma Instaurata*, the first attempt, only theoretical, at this architectural restoration in the time of Eugenius IV. At that time archæology had not become a science; it was an art, or rather it was a pursuit, which was followed by strange methods. Some of you may remember that Eugenius' secretary, Maffeo Vegio, was the author of a thirteenth Book added to Virgil's Æneid: and that was the general attitude which the earlier Renaissance took up towards the past.

Like its predecessors of the Middle Ages, the Renaissance lived on the plunder of the classical past, careless as to what was destroyed so long as from the ruins and the excavations objects were extracted which they could put to any use. In the present time we have learned better, and, beyond all things, it is suggested by this paper that we have at last come to appreciate Imperial architecture and its splendid feats of engineering. And it is very remarkable, and a thing worth taking notice of, particularly by an audience like this, that in architecture the achievement of Rome became greater and greater up to the time when her achievements in other fields—literature, painting, sculpture, and the other arts—were decadent. Do you realise, for instance, that the Thermæ of Titus were eclipsed by the Thermæ of Caracalla, and how the apparently unsurpassable Thermæ of Caracalla were doubled in magnitude by

those of Diocletian when the Empire was beginning to go to wreck? Or do you realise that of the Roman Basilicas the culminating one, the largest and most stupendous, is that of Maxentius which was completed by Constantine, and generally known by his name? Rome was indeed the Capital of the World then, and for a century after Constantine moved the centre of Empire to his new capital of Constantinople, Rome remained a great city. Then the decay set in and continued. There were wonderful things done during the Middle Ages. Notable among them, and overlooking the new Via dell' Impero, is the Torre delle Milizie, one of the noblest of the thirteenth-century structures. Both the earlier and the later Renaissance plundered and destroyed almost indiscriminately. The task of the future has now been taken in hand, to re-create and at the same time to preserve.

I will not trespass further on your patience, ladies and gentlemen, but will ask you to pass a cordial vote of thanks to Professor Dr. Calza for his most interesting and instructive paper, and to join with that an equally cordial vote of thanks to Dr. Camillo Pellizzi for having so kindly come here to read it to us.

Mr. H. N. SLOMAN (Headmaster of Tonbridge School): Mr. President, ladies and gentlemen, I have absolutely no qualifications for the honour of seconding this vote of thanks: I am not an architect myself, and it is now more than thirty years since I spent my few months under Professor Ricci studying the archæology of the Forum, as it was then possible to study it. I should like, however, very heartily to second this vote of thanks.

The paper we have heard to-night has been, indeed, of surpassing interest, especially, I think, to those of us who have not been fortunate enough to have been in Rome during the last three or four years. I have never seen the Via dell' Impero, but I hope it will not be long before I do, and I am sure all of us here to-night who have not yet seen it will have been stimulated to go there as soon as we possibly can. The work is of the most surpassing interest. Those of you who have recently been in Constantinople and in Athens will have seen what is being done and what is going to be done in those two towns in the way of reconstruction and restoration; and I think that in Rome this road, the Via dell' Impero, is of far more than archæological or architectural interest to all of us. You will remember the reference which was made, towards the end of the paper, to the new building in the Via Cavour for which plans are being called for. That is not the least interesting of the things we have heard to-night. The solution of that problem, architectural, cultural, spiritual, is going to be of enormous importance, not only to Italy, but also to us, to everyone who is interested in the continuity of the past and the present. That spiritual continuity seems to me to be one of the greatest lessons which the Duce has to teach the rest of the world, and perhaps even Italy itself—the fact that progress does not necessarily mean breaks, and that it can be made consonant with continuity. That is the truth of which the Via dell' Impero is, to me, the great symbol: the continuous road along which spiritual progress and material progress—because one is impossible without the other—can and must be made.

I will not detain you further, ladies and gentlemen. It is hard to speak after Professor Mackail, especially for a Balliol man. I ask you to carry this vote of thanks to Professor Dr. Calza for his paper, and to Dr. Pellizzi for coming here to read it; we are indeed grateful to them for a very wonderful evening.

Mr. A. N. C. SHELLEY: Mr. President, ladies and gentlemen,—I do not know that I have any qualification to open this discussion, certainly no qualification comparable with those of Professor Mackail, unless it be this: that my own knowledge of Rome is comparatively recent; it began after the Great War. I was, for some little time, frankly afraid to go to Rome, for fear of disillusionment. Without any pretentions to scholarship, without pretentions to any great historical knowledge, I have always felt that Rome lay at the root of so much that we do and feel and think and say, that I was afraid, and so I postponed my first visit. That first visit of mine was paid before most of these quite recent innovations, and I have now come to feel that a year passed without a visit to Rome is a year wasted; and at every visit I find something new. It took me some time to find my way about the centre of Rome, as it was ten years ago; and on each visit it has taken me some time to find my way about it as it has been altered.

I wish that people in this country, where we are so much concerned with slum clearance, could see the scale on which slum clearance has been carried out in Rome, could see what has been done in the clearance of the capital of Italy from the accretions of centuries, and the way that light and air have been let in. I wish that we and all the authorities who have to deal with the problem of re-housing the populations of our great cities could see the illustrations of what has been done in Rome, how the population has been re-housed and how great new suburbs have sprung up. There the task of preparing Rome for future ages is being carried out under a live guidance, which is compatible with the preservation of everything that was best in the past which has survived from the 25 centuries of effective living Roman history. Under the guidance of those in charge of Italy's destinies to-day we have the opportunity of watching Rome grow again, to be not merely the heart of Italy, but the Light of the World. There, as nowhere else, one can study the material and spiritual problems of civic development in process of actual solution; and, if one has had the opportunity of studying it on the spot, it is possible to realise how immensely valuable is a paper such as we have heard to-night, and how desirable it is that people in this country—not merely in an audience such as this, but throughout the length and breadth of the country—should have the opportunity of studying, by lectures, by photographs, by films, by, in fact, any means which modern resources place at our disposal, the work which is there being done, as an example to us all.

Mr. H. V. LANCHESTER [*F.*]: I should like to follow the last speaker in expressing my great gratitude for the extremely interesting paper that we have heard to-night.

I have only one or two remarks to make. I do feel that, having been a long time absent from Rome, it is incumbent upon me—and probably many others here join me in that feeling—to get to Rome as soon as I possibly can, to see not only what has been described to us to-night, but numerous other things which are opening up in Rome, which there is

not time to touch on in an hour's lecture, but which are no less interesting than the Imperial Way, which was the main subject of this paper. The only thing approaching criticism I have to make is that I, and probably others, would have liked to have seen more plans. Pictures and photographs are very good for the public, but, speaking for myself and the other architects here, I would say that plans are more interesting.

It is a long time since I was in Rome, and when I was there I was studying with Lanciani, who was at that time exploring the Imperial Fora which lie between the Forum of Trajan and the Basilica of Constantine. I am puzzled by the effect of the Imperial Way on the series of Imperial Fora which were being investigated, and I hope very much that this paper, when it appears, will be illustrated by a plan showing the actual position of the Imperial Fora and their relative position to that of the Imperial Way. It will then be very much clearer to me how this magnificent Imperial Way, which is obviously a great feature in the Rome of the present and the future, stands in relation to the series of known Imperial Fora in the immediate proximity to it.

That is the only plea I have to make for a slight further elucidation of the problems which have been, as far as I can see, met and solved in this magnificent way by those who are in charge of the development of Rome. Rome was a great city, and is going again to be the city that Rome was. It is evident that in the future we shall all look up to Rome as a city which has recovered its past, and is the capital of Europe, if not of the world.

Lt.-Col. H. P. L. CART DE LAFONTAINE [*F.*]: I would just like to add one thing to the remarks made by Mr. Lanchester about visits to Rome, because we hope that in 1935 the Annual Congress, which was to have been held this year at Washington, will be held in Rome. I hope it will be supported by all those who are here present, as well as by many others.

The PRESIDENT: Before I put the vote of thanks, ladies and gentlemen, I would like to pay a tribute to the marvellous work which has been achieved in Rome by the Italian Government. I had the opportunity, last Spring, of spending, I am afraid, only half a day there, but I wanted to get a fleeting glimpse of what was happening. The amazing boldness of conception with which this problem has been tackled impressed me very much, and it seemed to me that we might learn a great deal from that in this country: the big touch, the touch of a giant. And I was struck, on the same tour, by seeing the same force at work in the town of Rhodes, where the authorities whom Mussolini has put in power are animated by the same spirit. The Governor has almost autocratic powers, and he happens to be a man of artistic sense and judgment; he has restored that town of Rhodes to the state it was in during the Middle Ages, and it is now a remarkable example of mediæval architecture. The excrescences due to the Turkish rule have been largely taken away, and as a result we have a fine example of an almost complete mediæval town, the town of the Crusaders and the Knights of Rhodes, of whose buildings we saw an example in Rome, that great pile with the loggia on top, which struck me as being extraordinarily impressive.

I have now great pleasure in putting to the meeting the vote of thanks to Dr. Calza for his paper, and to Dr. Pellizzi for so kindly coming to read it to us.

Dr. CAMILLO PELLIZZI (in reply): Mr. President, ladies and gentlemen, I am very grateful for your thanks. I really feel that I am an interloper here to-night; neither an architect nor an archæologist, just an Italian. As a matter of fact the paper I have read to you was a very good paper in Italian. It was translated into English very hurriedly, not by me, nor by anyone here, I think, and it was finally put into shape by the help of your Librarian, who also was effective in unearthing from somewhere in the Library some of the pictures which you have seen on the screen and turning them into slides. Also the only two maps or plans which I was able to show you were found by Mr. Carter, because no map or plan had been sent over from Rome for this occasion.

I must apologise to you for my poor pronunciation of English, and for the still worse pronunciation of many archæological and architectural words, some of which I have met in their English form for the first time to-night.

I felt, when it was suggested that I should read this paper to you, that it should have been read by an Englishman, but your President remarked that there ought to be some touch of local colour about such a paper; I hope I have not overcoloured the picture!

And now I will speak as an Italian. I feel that what Professor Calza has been trying to do is to make an *apologia*, a justification if you will, for the building developments in Rome, a justification presented not only to Italians, but, in this case, to an English audience, people who have a better title than most to consider themselves citizens of the world, and, therefore, citizens of Rome. I am sure that, in some ways, the paper has been successful in explaining and justifying the works which have been carried out in that sacred portion of the world.

The Use of Photographs in Town Planning and Design

BY PERCY J. WALDRAM, F.S.I. [L.]

Mr. J. W. Gordon, K.C., the author of a text book on Generalised Linear Perspective (Constable, 1922) recently sent to the R.I.B.A. for comment a small brochure describing the new system which he had evolved known as the Parallacter System, for applying to photographs the geometrical principles of perspective, with the object of performing, by means of certain instrumental devices, the operations of making additions to maps from photographs, and of making additions to photographs with the aid of maps.

The Science Standing Committee, having considered a report by Mr. Waldram on the system, are of the opinion that the operations of map making and the use of the instrument described pertain too closely to the work of specialist land surveyors to be of interest to architects at large; but that the operations of adding proposed buildings to photographs of their prospective sites, taken from various aspects offers great possibilities of usefulness not only in connection with architectural practice, but more particularly in connection with the larger problems of town planning as affecting design, especially in built-up areas.

They have therefore desired Mr. Waldram to compile for the JOURNAL *the following explanation of the geometrical principles involved in that part of the subject in order to enable architects to make immediate use of what is essentially an extremely simple technique, the great potential value of which is rendered abundantly obvious in the striking examples of its employment by Mr. Godfrey Allen in connection with St. Paul's Cathedral.*

The Committee desires to place on record its appreciation of the debt which architects owe to Mr. Gordon upon whose initiative this very interesting and most useful development has taken place.

IN the brochure describing the Parallacter System of working on photographs treated as perspectives, and the instruments suggested to facilitate such work, the author, Mr. J. W. Gordon, K.C., regards problems in geometrical perspective mainly from the point of view of the mathematician, who is apt to visualise geometric operations as matters which can best be considered, and can most accurately be defined, in terms of trigonometry. This of course is scientifically correct; but to architects who, unlike surveyors, have but scanty opportunities of employing trigonometry in their work, it has the disadvantage of describing comparatively simple facts in an unfamiliar language, thereby conveying an impression of abstruse and involved complexity, which is quite incorrect.

The Parallacter system also covers operations in map making which are unlikely to enter into the work of an architect.

But without studying the system as a whole, or employing any of the ingenious instrumental labour saving apparatus which Mr. Gordon has devised, it is desirable to consider in detail one of the operations involved.

This should be of no small practical use to architects, both in design and town planning, and is quite simple.

It consists of the geometrical operations by means of which, given a plan of the ground covered by material parts of a photographic view in relation to the camera position, any desired object or objects, as for example a proposed building, can, with the aid of certain data, be drawn on the photographic view in true perspective; and the relation of the hypothetical object to its surroundings as viewed from the camera position thereby visualised accurately—the operation being repeated from as many points of view, *i.e.*, camera positions, as may be desired.

It is scarcely necessary to emphasise the value to an architect of being able to indicate with very little labour to a client the exact effect of proposals, or of alternative proposals, upon given backgrounds from various points of view.

Still more important is it to be able to indicate to, say, a Town Planning Committee whether a proposed building in the path of a valued vista would be an advantage or an eyesore, or be either obtrusive or innocuous.

This would be just as important in the furtherance of reasonable development as it would be in restraint of selfish overcrowding.

Public interest in the communal amenities of towns already somewhat overbuilt is increasing daily. Under the new powers given to local authorities in connection with town planning important decisions are greatly influenced by perspective illustrations in the public press. It is vitally important that these should be accurate.

The essential data necessary to enable a suitable plan, say an Ordnance map, and a photograph to be combined into the elements of a partially finished perspective drawing to which any desired addition can be made are:

(1) The equivalent focal length of the lens used in the photograph.

(2) The direction on plan of the axis of view of the photograph.

(3) The angle of tilt, if any, of the axis of view above or below the horizontal.

(4) Means of determining the horizontal and vertical axis of the photographic view.

In the article on the Interpretation of Photographs in the JOURNAL, R.I.B.A., of 17 June 1933, methods were described by means of which focal lengths and angles of

FIG. 1.—VIEW OF WESTMINSTER ABBEY AND THE HOUSES OF PARLIAMENT FROM LAMBETH BRIDGE

tilt and the horizontal axis of photographic views can be obtained by deduction and calculation in cases where they are unknown. It will be sufficient for the purpose of this note to consider the possibilities when they are known or have been deduced.

Let it be assumed for example that a photograph, Fig. 1, is available taken from a point P on Lambeth Bridge, Fig. 2, in the general direction of Abingdon Street and the Houses of Parliament, and that it is desired to indicate on that photograph the true perspective view of new buildings on the West side of Abingdon Street of the full Building Act height, viz., 80 feet to eaves with two storeys above set back at 75° from the horizontal to a total height of 100 feet.

Also let it be assumed—

(*a*) That the camera used had been fitted with the equivalent of small metal arrowheads in front of the plate or film, which appear in every photograph taken and enable the vertical and horizontal axis of view to be indicated accurately by lines joining the points of the arrowheads.

(*b*) That the photographer had been careful to note the height as well as the exact position on plan of his lens.

(*c*) That he had read off from the brass mounting of his lens the equivalent focal length. In the case of the camera which produced Fig. 1 this was 9 inches.

(*d*) That the focusing screen of the camera is marked with lines coinciding with lines joining the points of the arrowheads, and that the photographer has been careful to locate the camera so that the image of a distant point or series of points known to be at the same level as the centre of the camera lens when the camera was set up coincided with the horizontal line on the focusing screen before the plate was exposed. This ensures that the view is taken without any tilt above or below the horizontal, and the vertical heights can therefore be set up accurately above and below the horizontal line on the print joining the side arrowheads.

In the photograph (Fig. 1) this precaution had not been taken. The quoins of the Victoria Tower, which would be exactly parallel in a photograph taken on an horizontal axis, and would tend to converge if the camera axis were tilted, are, as seen in the photograph, so short that the absence of any measurable convergence is no reliable test as to whether heights set up from the horizontal axis of the print would accurately represent the height of any hypothetical building.

This has been checked as closely as possible, and it is believed that the perspective addition to the photograph is accurate. But in the absence of the precaution described above the view should be taken only as illustrating a method and not as exact evidence of the effect of this particular building on the view from Lambeth Bridge.

The site of the building shown is also merely assumed from the Ordnance map.

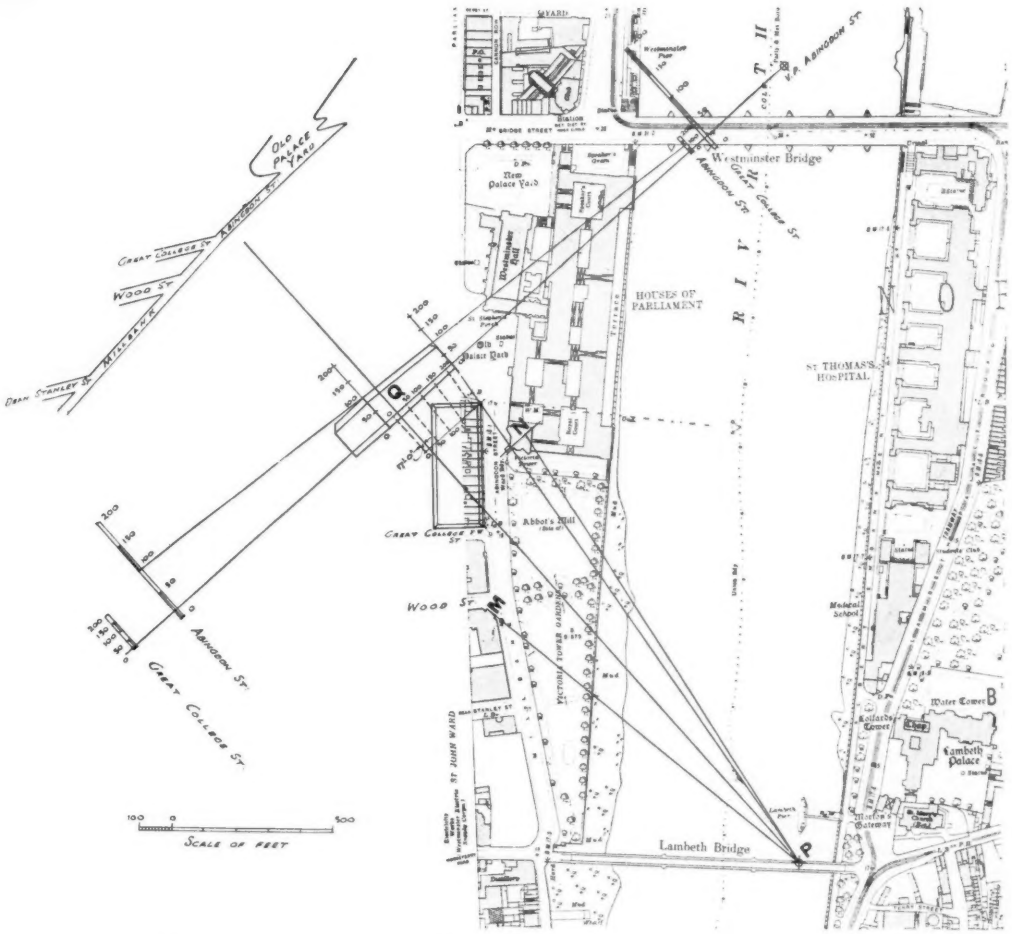


FIG. 2.—LAMBETH BRIDGE AND ABINGDON STREET REPRODUCED FROM THE ORDNANCE SURVEY MAP BY PERMISSION OF H.M. STATIONERY OFFICE

The photographic view (Fig. 1) was not taken with the vertical axis aligned on to some definite point, such as the quoin of a building which could be located on the map or plan to enable the axis of view, *i.e.*, the line PQ on plan, to be laid down.

In a view bearing the necessary fiduciary points in the form of arrow heads at the top and bottom, this presents little or no difficulty. A transparent web of angular co-ordinates, set out for the equivalent focal length of the lens used, can be constructed by the methods described in detail in the article in the R.I.B.A. JOURNAL already referred to and laid over the photograph. From this web can be read off angles of azimuth or bearing from the vertical axis of the photographic view subtended at the point P by two or three points which can be located on the plan. If these points on plan be then joined to the point P lines set off from them by means of angles of bearing measured on the superimposed web should all coincide on plan with the axis of view PQ.

In the case under consideration the construction of a web of angular co-ordinates was not necessary. By means of a little trial and error it was found possible to locate on plan two points M and N, which were equidistant on the

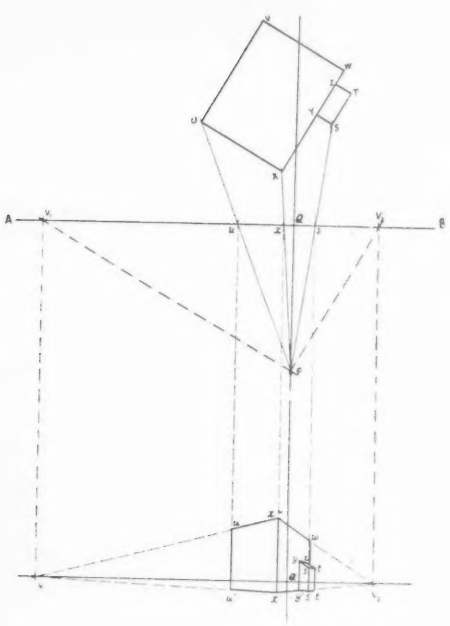


FIG. 3

print from its vertical axis. These points on plan were joined up to the point P by lines MP and NP, and the angle MPN when bisected gave the direction on plan of the line PQ.

The picture plan was then laid down at right angles to PQ, at a distance from P equal to the equivalent focal length of the lens, *i.e.*, 9 inches.

All the necessary geometric framework was then available upon which additions to the photographic view could be set up in true perspective. A draughtsman accustomed to ordinary perspective drawing would probably dissent from this, on the ground that no vanishing points had been laid down to enable the heights in perspective of points, lying to the right or left of the axis PQ, to be determined by the customary perspective construction shown in Fig. 3. In this the height of a lateral feature, such as the quoin UU^1, is set up by joining point X to the vanishing point V, and projecting downwards from the point U on the picture plane.

But Fig. 3 also shows that the height UU^1, or any other height on the perspective view can be obtained by measurement from the intersection with the picture plane of the section along the axial line PQ produced. Vanishing points, which are often at inconvenient and sometimes impossible distances from the perspective view, are in fact in no way essential to perspective projection, although they are, of course, of great assistance as a labour-saving device.

Any point along a lateral or inclined façade can be regarded as a point on a façade parallel to the picture plane. Such a facade would have no vanishing points; horizontal parallel lines along it, such as brick or masonry courses, remain parallel in the perspective view, in which also a horizontal top edge remains horizontal. The heights of the extremities of any inclined facade can, therefore, be obtained by projecting them on to the axis line PQ produced and measuring them upon that line.

The outline of buildings of full Building Act height on the given site in Abingdon Street as viewed from the camera position on Lambeth Bridge can, therefore, readily be added in true perspective to the photographic view from that position without vanishing points. The few geometrical operations necessary will be obvious from Fig. 2. This operation can, of course, be repeated from as many positions as may be desired ; and a complete, accurate and fair conception can thus be arrived at as to the visual effect of such buildings.

The method, therefore, provides reliable data upon which can be founded sound decisions as to whether given instances of high building would be harmful or harmless in the vicinity of historic buildings which add to the beauty of a given neighbourhood and, therefore, incidentally, to the real material value of buildings in it.

Without a doubt the unobscured aspect of noble buildings is public property of incalculable value, and not merely an æsthetic or sentimental amenity which must give way to "modern economic development,"—that blessed phrase which decently veils the naked selfishness of owners of land and property.

The very real value in the eyes of the public of fine buildings which have for centuries formed the characteristic features of towns and cities can best be appreciated by imagining the sudden ruin of, say, Westminster Abbey or St. Paul's by fire or explosion. Would not everybody instantly wake up to the most keen and poignant realisation of what those buildings had really always meant to them unconsciously, and without their having been in the least aware of it?

But whilst the prospect of a total loss would be unendurable, gradual obstruction of aspect by high buildings here and there may well pass almost without comment or be accepted with a sigh as the inevitable result of modern progress.

Human nature being what it is, and especially British human nature with its penchant for compromise, it is not surprising that public bodies may reluctantly decide by a majority not to prevent or curtail some very fine new building project which offers large increases of rateable value, especially when it is backed by specious arguments as to economic necessity. Why kill a fine new scheme for

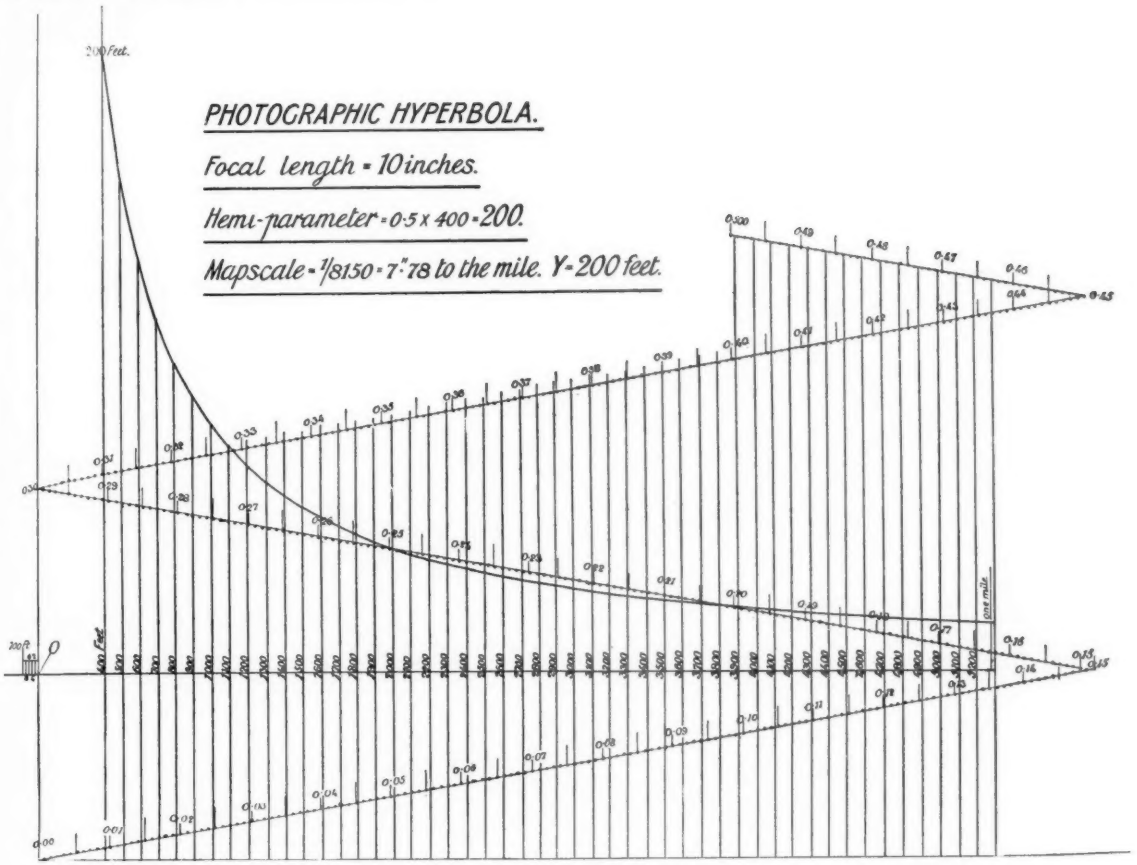

200 Feet.
PHOTOGRAPHIC HYPERBOLA.
Focal length = 10 inches.
Hemi-parameter = 0·5 x 400 = 200.
Mapscale = 1/8150 = 7·78 to the mile. Y = 200 feet.
one mile.

FIG. 8.—MR. GORDON'S DIAGRAM SHOWING HEIGHTS ON PHOTOGRAPHS TAKEN WITH LENS OF 10 INCHES EQUIVALENT FOCAL LENGTH OF OBJECTS 200 FEET HIGH AT VARIOUS DISTANCES FROM THE CAMERA

the sake of that bit of a view of Westminster Abbey from Lambeth Bridge? Who goes over Lambeth Bridge, anyway, except in a bus or a taxi? Luckily the powers that be in the case of high buildings in Abingdon Street recognised that it was more important to consider who may use Lambeth Bridge in the future when the long neglected south side of the Thames is properly rebuilt. Districts change. In Westminster and Pimlico fine thoroughfares of fine buildings are replacing the old rookeries which the police not so many years ago were forced to patrol in couples. Unfortunately the reluctant consent of a well-meaning public body to an extra high building immediately becomes a powerful precedent, and is apt to set the measure for further encroachments; which may be individually unimportant, but disastrous when taken together.

Whatever A's new palatial office block which will add thousands to the rates is permitted to do, must, in common fairness, be permitted to B's ugly factory, the stark warehouse of C, and so on, *ad infinitum*.

When the proposal to erect a large office block in Great George Street, flanking Parliament Square, was scotched by promptly applied town-planning powers, indignant letters of protest appeared in *The Times* demanding a reversal of the decision on the grounds that the proposal was no higher than the Government buildings opposite to it.

The nature of the insidious danger that St. Paul's will gradually become invisible behind semi-skyscrapers if certain new buildings are allowed to set the scale of general rebuilding in the City has been recognised; and the Surveyor, Mr. Godfrey Allen, is at present engaged upon a report to the Dean and the Chapter on the subject. This report is to be illustrated by a most remarkable series of photographs of the views of the Cathedral from a

FIG. 4 (*above*).—VIEW OF BLACKFRIARS BRIDGE AND ST. PAUL'S FROM OXO WHARF

FIG. 5 (*below*).—VIEW OF ST. PAUL'S FROM OXO WHARF, WITH BUILDINGS 100 FEET HIGH ALONG BRIDGE STREET AND THAMES SIDE

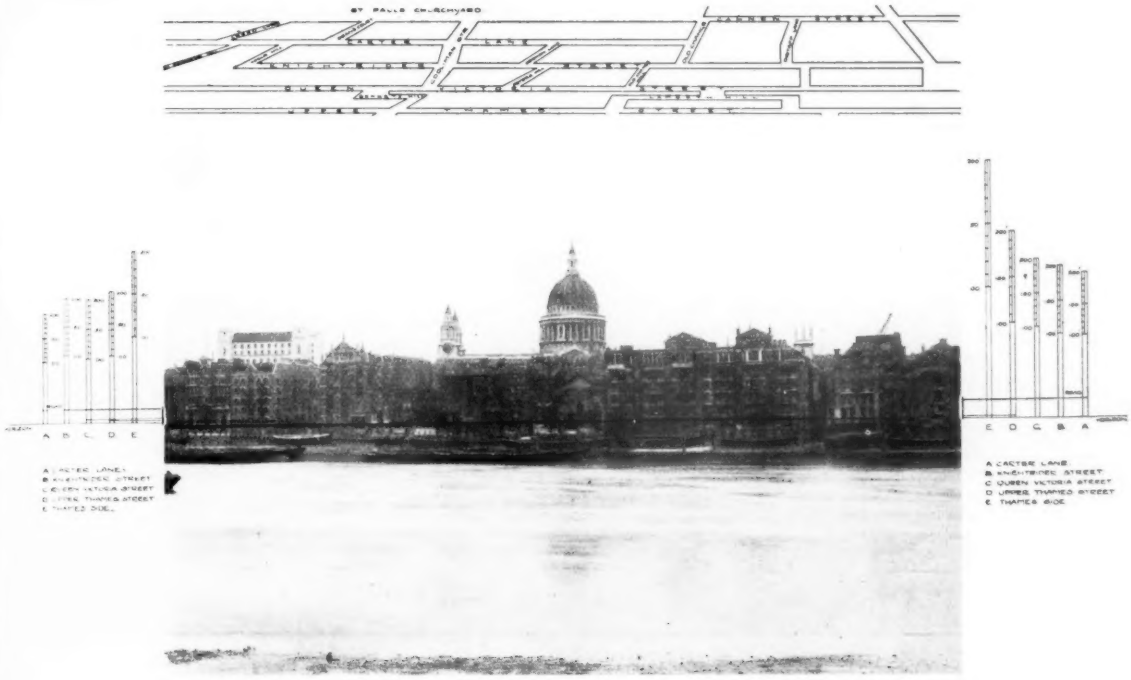


FIG. 6 (*above*).—VIEW OF ST. PAUL'S FROM BANKSIDE

FIG. 7 (*below*).—VIEW OF ST. PAUL'S FROM BANKSIDE WITH BUILDINGS ALONG THAMES SIDE 100 FEET HIGH ABOVE ROADWAY OF UPPER THAMES STREET

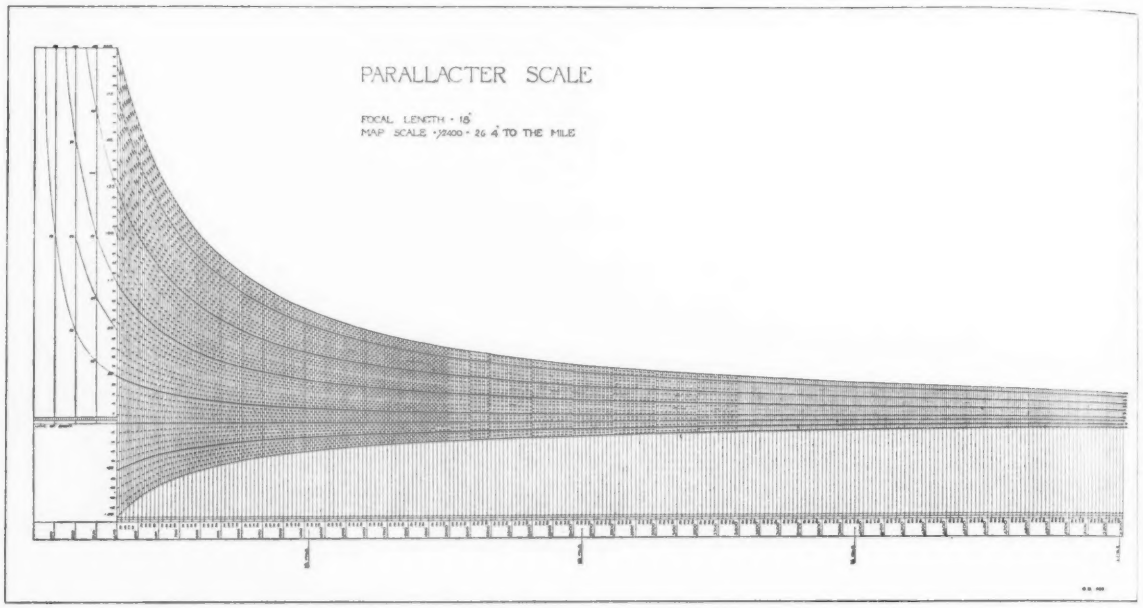


FIG. 9.—MR. CECIL BROWN'S DIAGRAM SHOWING HEIGHTS ON PHOTOGRAPH TAKEN WITH LENS OF 18 INCHES EQUIVALENT FOCAL LENGTH OF OBJECTS OF VARIOUS HEIGHTS AT VARIOUS DISTANCES FROM THE CAMERA

large number of well-known positions, upon which photographs the ultimate effect of universal repetition of individual high buildings already authorised has been indicated in exact perspective by the simple methods described above.

Mr. Godfrey Allen has most generously allowed the publication of two examples of this striking series in Figs. 4, 5, 6 and 7.

It is to be hoped that when the Dean and Chapter have considered the full report they will authorise its publication without delay. It should form not only a document of intense interest, but also a contribution of the utmost value to the science of exact town planning.

By means of the ingenious system of side ordinates and projected street maps devised by Mr. Cecil Brown, Mr. Godfrey Allen's assistant, the effect of buildings of any height can be ascertained at once by lines across the photographic view joining any two side ordinates; the length of the line across the print being limited to the length between vertical lines dropped down from the extremities of the particular street under consideration in the projected map above.

Fig. 4 is the view of Blackfriars Bridge, the new Unilever House and St. Paul's from Oxo Wharf, which is typical of the prospect from any duplication of the Thames Embankment on the south side of the river.

This is a view-point which can only be neglected as of no importance if the south side of the river is never to be redeemed from its present squalid state. Fig. 5 shows the prospect from a possible Southern Embankment if buildings 100 feet high are to be permitted along Bridge Street and Thames Side. Fig. 6 shows the present prospect from Bankside, viz., from any Southern Embankment between Blackfriars and Southwark Bridges. Fig. 7 shows how this would be affected by buildings on Thames side 100 feet high above the roadway of Upper Thames Street.

Mr. Brown is also responsible for the following practical application of one of Mr. Gordon's ingenious labour-saving devices.

Fig. 8 is a diagram by Mr. Gordon which gives the height or depth in feet above or below the horizontal axis of a perspective or photograph of ten inches perspective distance or focal length (PQ) of objects 200 feet high at various distances in feet. The inclined lines constitute an ordinary diagonal scale, the height in perspective of objects of different heights being obtained by proportion calculated on a slide rule.

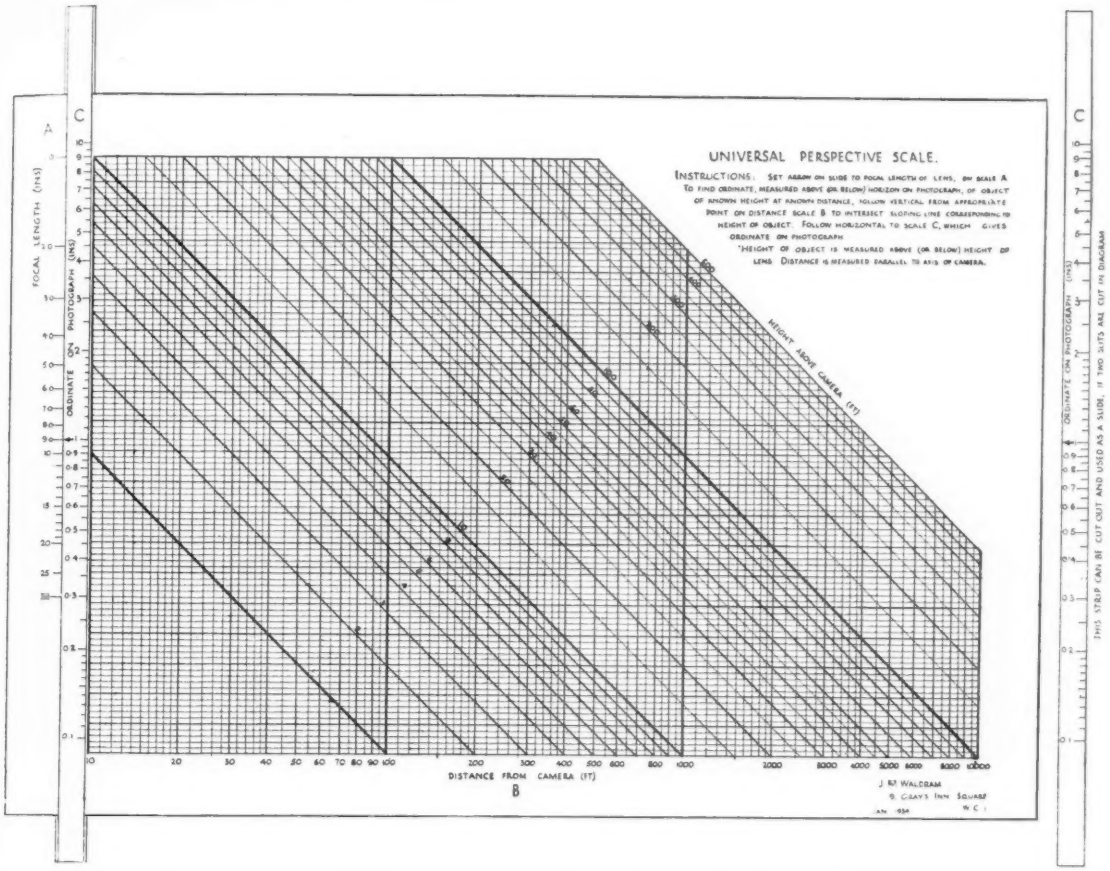

UNIVERSAL PERSPECTIVE SCALE.
INSTRUCTIONS. SET ARROW ON SLIDE TO FOCAL LENGTH OF LENS, ON SCALE A. TO FIND ORDINATE, MEASURED ABOVE (OR BELOW) HORIZON ON PHOTOGRAPH, OF OBJECT OF KNOWN HEIGHT AT KNOWN DISTANCE, FOLLOW VERTICAL FROM APPROPRIATE POINT ON DISTANCE SCALE B TO INTERSECT SLOPING LINE CORRESPONDING TO HEIGHT OF OBJECT. FOLLOW HORIZONTAL TO SCALE C, WHICH GIVES ORDINATE ON PHOTOGRAPH.
"HEIGHT OF OBJECT IS MEASURED ABOVE (OR BELOW) HEIGHT OF LENS. DISTANCE IS MEASURED PARALLEL TO AXIS OF CAMERA.
FOCAL LENGTH (INS)
ORDINATE ON PHOTOGRAPH (INS)
HEIGHT ABOVE CAMERA (FT)
DISTANCE FROM CAMERA (FT)
B
J. RT. WALDRAM
9, GRAY'S INN SQUARE
W.C.1
JAN. 1934
THIS STRIP CAN BE CUT OUT AND USED AS A SLIDE, IF TWO SLITS ARE CUT IN DIAGRAM

FIG. 10.—UNIVERSAL DIAGRAM FOR DETERMINING HEIGHTS ON PHOTOGRAPHS, TAKEN WITH A LENS OF ANY EQUIVALENT FOCAL LENGTH, OF OBJECTS OF VARIOUS HEIGHTS AT VARIOUS DISTANCES FOR USE WITH ANY MAP SCALE

Fig. 9, drawn by Mr. Brown, is a family of similar curves enabling varying heights of objects to be measured off direct by a pair of dividers, thus eliminating slide rule calculations.

My partner has taken this diagram two steps further, (Fig. 10). Using logarithmic scales (identical with those on a slide rule) he substitutes parallel straight lines for the family of curves, thus reducing the time necessary for producing a fixed scale of ordinates and obtaining a measuring diagram applicable for any height of object, which, by means of a sliding vertical scale, can also be made applicable to any given focal length or perspective distance.

The scale of distances being logarithmic this diagram cannot, like Figs. 8 and 9, be so arranged that distances on photographs or on a given map scale can be measured off by dividers, which is a convenience when dealing with photographs of a large number of positions located on a map or maps to the same scale such as Ordnance maps. It has, however, the compensating advantage of being universal for any map scale perspective distance or focal length.

Review of Construction and Materials

This series is compiled from all sources contributing technical information of use to architects. These sources are principally the many research bodies, both official and industrial, individual experts and the R.I.B.A. Science Standing Committee. Every effort is made to ensure that the information given shall be as accurate and authoritative as possible Questions are invited from readers on matters covered by this section; they should be addressed to the Technical Editor.

THE MOPIN SYSTEM OF CONSTRUCTION

The following article has been written in collaboration with the Building Centre.

For many years, particularly since the War, architects, engineers and economists have made attempts to cheapen the cost of building by eliminating work on the site and using instead various forms of factory-made units. Much has been said about "employing the methods of Henry Ford in building," but very little has been achieved; in the main, building is still largely dependent on fabrication on the site.

These efforts have failed, for one or all of the four following reasons: (*a*) They were not sufficiently elastic, being usually concerned with only one type of building and sometimes even requiring a standardised plan. (*b*) They called for an entirely new building organisation different from the ordinary contractor's as at present established. (*c*) They were not actually cheaper than the usual brick construction or brick-filled steel frame. (*d*) Where they were cheaper they suffered from disadvantages, such as reduced fire-resistance, increased noise transmission or higher upkeep cost, which prevented their adoption.

This new system, called after its designer, M. M. E. Mopin, a French civil engineer, appears likely to achieve considerable reductions in cost and to be comparatively free from the objections outlined above. Moreover, it is far removed from the realm of the merely clever idea since it is based on scientific and calculated use of the qualities of materials. It is, in fact, a system that merits close investigation. Several buildings have been erected in France and the system is already beyond the experimental stage, though improvements in detail are continually being made. It lends itself most readily to large blocks of flats for which up to the present it has been almost entirely used. The two principal schemes so far undertaken are La Cité du Champs des Oiseaux, at Bagneux, Paris, costing about £400,000, and La Cité Muette, at Drancy, Paris, costing about £1,200,000; this second scheme is still under construction. The architects for both schemes were MM. E. Beaudouin and M. Lods.

The Mopin System. A block of flats in course of assembly. Stacks of pre-cast concrete wall units are seen in the foreground

PRINCIPLES OF CONSTRUCTION

In principle the system employs small pre-cast reinforced concrete units for attachment to a steel framework. No unit, either of concrete or steel, exceeds some 200 to 250 lb. in weight, and can therefore be easily handled by two or three men; erection is carried out without the use of scaffolding, shuttering or expensive hoisting gear. The system eliminates almost entirely fabrication or "building" on the site, assembly of factory-made units being substituted. An important feature is that the steel framework is not sufficiently rigid to take the ultimate load until it receives its concrete casing and panel filling. In other words, it utilises the structural strength of the filling material, a principle that is as yet foreign to most British building regulations, except in reinforced concrete construction, of which, however, it may reasonably be considered a variant.

THE STEEL FRAME

French practice in steelwork differs from English in some particulars, but the differences are not material when considering the employment of the system in England. The real difference lies between the ordinary use of steelwork for taking *all* loads and stresses and in this new use as a type of reinforcement to a homogeneous structure, the reinforcement being also capable of acting as scaffolding. The design of the steelwork is conditioned by the maximum weight limit of 200 to 250 lb. of any one piece.

Typical main members in the two large schemes near Paris consist of channels with spacers of plate, sometimes riveted but usually welded; the weight limit leads to the practice of building up small sections (channels, angles and flats) into rigid units rather than of using larger sections which are in themselves rigid but unnecessarily heavy.

The steelwork is protected by casing in concrete according to accepted practice, except that the pre-cast units act as a permanent formwork, the pouring of the concrete being, therefore, a simple operation. In the two Paris schemes the steel units are bolted together, again a practice which is unusual in England, but one which does not seem to possess any material dis-

advantages, provided the bolts are concreted in and allowance is made in calculation.

THE PRE-CAST UNITS

The outer wall skin is composed of Tee-section reinforced concrete units set vertical and extending from floor to floor and consequently from steel member to steel member. The width of the unit depends on the weight, the usual width being 12 inches. Rods project from the units at top and bottom; these are bent round the steel members and fixed by the poured concrete casing to the steel. (See the Structural Isometric Diagram.)

The manufacture of the units is based on the use of vibrated concrete on which a great deal of research has been carried out by many authorities in recent years. The filled moulds are placed on a vibrating table which ensures good filling of voids, enables a dry mix to be used and gives a dense concrete. The units can be turned out of the moulds at once, which results in both economy and accurate stereotomy, since it both permits and calls for the employment of metal moulds. Vibrated concrete has a hard, smooth surface which may nevertheless be free from laitance. For some years past it has been the usual method of making concrete paving slabs in England as well as being used for other kinds of pre-cast work.

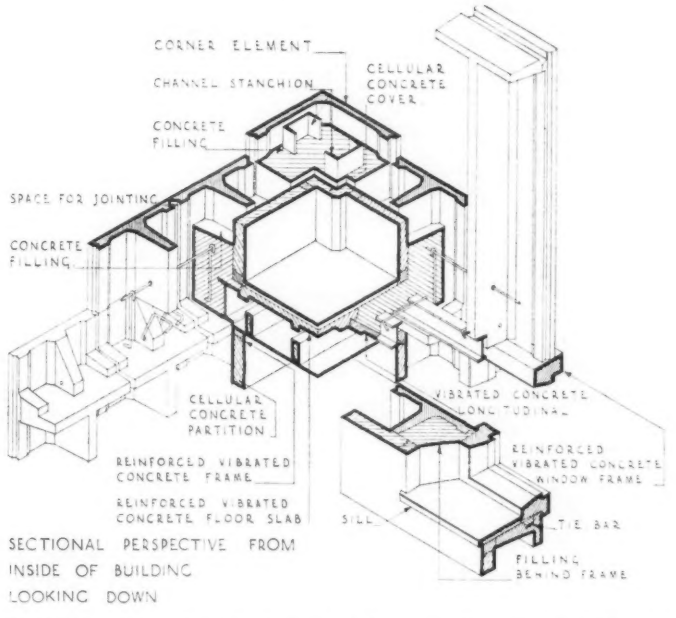
In the two schemes in Paris the exterior surface of the units consists of an exposed pebble aggregate which is coarse in scale and unpleasant to English eyes. The design possibilities of the system should not be assessed by these French examples, which are an expression of present-day fashion in suburban Paris speculative flats. A great variety of surface finishes is possible, and there is a considerable field for experiment. Neither does the system limit design to the form and fenestration shown in the illustrations accompanying this article.

It is claimed that the surface of vibrated concrete is free from crazing, a claim that seems to be borne out by an inspection of the Bagneux scheme, which has been standing for four years. The use of a large exposed aggregate may, however, help towards this. All the pre-cast concrete units, such as wall units, floor sections, partition sections, staircases and cills are made of vibrated concrete.

The vertical joints between wall units are vee-sectioned, the slabs touching on the outside face. The joint is pointed up from inside with a cement gun.

INTERIOR SLABS AND PARTITIONS

The partitions between rooms and the inner skin of the exterior walls are identical. These are vibrated, span from floor to ceiling in one length, but are of flat section and made of cellular concrete. Cellular concrete is used partly for its relative light weight, but principally as a sound and heat insulator. On the outer walls the cellular concrete units normally butt against the edges of the tee-sectioned units, the resultant wall being about 9 inches thick overall. The thermal efficiency of the wall, therefore, depends not only on the cellular concrete inner skin, but also on the still-air spaces in the vertical cavities between the tees.



The Mopin System. Isometric diagram of the construction. The protruding rods of the pre-cast wall units are bent round the steel frame, which is then concreted in. The type of floor shown is the one having an ordinary wooden sub-ceiling. The cellular concrete partition slabs have a frame of vibrated concrete

The average weight of the external wall, including inner skin and concrete infilling to stancheons and beams, is 41 lb. per square foot.

Internal partitions are fixed into slots in the floor and ceiling. The head of the partition slab is introduced into the upper slot, which is a little deeper than required, and then dropped into the floor slot; it is then slid up against its neighbour. The surface of the vibrated cellular concrete requires no plaster (indeed, internal plastering and external rendering are entirely eliminated) and is immediately ready for paint or wallpaper.

In the case of the Drancy flat scheme the walls of the kitchens, stairs and bathrooms are made of "Lap," an artificial marble of established reputation and which has been tested by the Building Research Station. These partition units are made on a vibrating table in the same way as other units, at a cost of about 15s. a yard, which, it will be noted, includes both the structural partition as well as a finished and decorated surface of great durability.

FLOORS AND ROOFS

Four types of floor construction have been employed. These are: (1) Pre-cast vibrated concrete tee-beam joists butted together; in fact a construction similar to that for the outer walls. (2) Beams in the form of a U with intermediate panels. (3) Panels cambered on the undersides between reinforced concrete filler joists. (4) Flat panels between steel filler joists at centres up to 4 feet.

In all these floors the reinforcing rods are bent round the structural steel main beams, which are subsequently filled in

The Mopin system. The Drancy flat scheme under construction. The lightness of the steelwork (of pairs of channels with stiffeners) can be seen

solid with poured concrete, thus preserving the monolithic character and rigidity of the construction. The weights vary from 16½ lb. to 31 lb. per square foot, No. 1 being the heaviest and No. 4 the lightest.

Two types of ceiling have been used. In the case of the tee-beam floor (Type No. 1 above) wood fillets are slotted into the bottom edges of the tees and plaster board or wallboard ceilings nailed to them. In the others separate sub-ceilings of ordinary wood joist construction are placed below the structural floor.

The upper surface of the floors will take any of the finishes usual on fire-resisting floors. In the Bagneux flats the living-rooms are finished with magnesite jointless flooring (linoleum would be an obvious substitute in England); the staircases and public passages have the natural vibrated concrete surface into which carborundum has been dusted; the kitchens are floored with vitreous mosaic, which is only economically possible by reason of standardisation.

The Mopin system. Part of the Drancy scheme under construction showing a stair flight of pre-cast concrete strings, treads, and risers bolted together. The plumbing is being installed before the partitions are erected

LOADS, ETC.

The system is said to give considerably lighter dead loads than do the normal solid brick or brick-filled steel frame types of construction. The licensees state that the transmitted load at foundation level is 62 lbs. per square foot of floor area per storey, as against 90 to 100 lbs. per square foot with the older types of structure. This does not include an allowance for live loads. They also state that from tests made in France the thermal conductivity of the external wall structure is equal to that of 18 inches of brickwork.

STAIRCASES

The ease with which the system lends itself to rapid erection is well illustrated by the staircases in the flats at Drancy (see the photograph below) These are constructed of pre-cast vibrated concrete strings in which are housings to take the ends of treads and risers; a tread and riser together form another vibrated concrete unit. Each flight is assembled and bolted together with two bolts through the strings, the bolts being subsequently grouted in. At Drancy a staircase for five floors, of two flights each floor, was assembled by three men in a day and a half, and there was no further finishing required whatever.

PLUMBING AND OTHER EQUIPMENT

A similar degree of organisation is expended on the equipment. Piping and conduit for plumbing, gas and electricity services are all cut and made up into convenient lengths before being brought on the site. It will be seen that the usual haphazard methods involving much waste of material and expenditure of time on the job have been abandoned. There is, in fact, none of the usual rubbish to be removed from the site on completion of the building.

An interesting feature in the Drancy scheme, though one that is not necessarily concerned with the construction, is that systems of tubes have been installed for the removal of solid house refuse. These are an ingenious combination of water carriage and vacuum plant. We propose describing the installation in detail in the next number.

ORGANISATION

It will be clear that the fullest economy can only be obtained by observing the following points: (*a*) The building scheme must be planned to make the fullest use of repeating plan units. It is, however, by no means necessary that all the flat plans should be identical since the system of construction has considerable latitude without adding materially to cost. Naturally, it is desirable that the different sizes of flat should be grouped together so that each section or wing of the structure is uniform throughout. (*b*) The whole scheme must be planned and fully detailed beforehand down to the last item of equipment. (*c*) Work both in the factory and on the site must be properly organised to save waste in time and labour. Indeed, the system is far more susceptible to economies in this way than are the older methods of construction now in use.

RAPIDITY OF EXECUTION

Given the preliminary organisation the speed at which erection can be carried out is surprising. In one small scheme in France the assembly of steelwork, walls, floors and roofs of 16 working-class houses of six rooms each was done in 20 days. The houses were tenanted within three months from starting on the

foundations; this was possible, partly because there was no plaster or mortar to dry out. In another scheme of 320 flats of four storeys, carcassing was completed in 5½ months, and the tenants moved in in seven months.

The designer, M. Mopin, considers that a scheme should have six months' office work, the steel and concrete units being ordered after three months. At the end of eight months all the units should be on the site and erection would occupy an additional four months, making one year in all. These figures are based on French practice, but the English licensees think that this time could well be reduced in England with the superior organisation of English contractors.

THE SYSTEM IN ENGLAND

In England the licensees of the system are Messrs. Gray and Warner, Ltd., Victoria House, Southampton Row, W.C.1, and whose consulting engineers are Messrs. E. Mopin and E. A. A. Rowse [*A.*]. It is suggested that architects' designs should be worked out in collaboration with the consultants, and the licensees will either quote a price for the erection of the work or prepare a specification and bill of quantities on a royalty basis for open tender.

CONCLUSION

Clearly, the system at present contravenes the letter of the London Building Act and of most, if not all, other municipal building Acts. This should not debar it from serious consideration both by architects and by those responsible for framing municipal building regulations. It will be necessary for the licensees to prove that the structure conforms to English requirements in respect of load, wind stresses and fire resistance, and that it does not contravene the Public Health Acts. After all, the letter of any building regulation is framed in the light of existing methods of construction in order to maintain certain standards. If these standards are equally observed by some new method of construction, a change in the letter of regulations should be made in order to include it.

If, however, a new system of construction is to be generally adopted, other proofs are required. Such a system must not possess new disadvantages from which existing methods of construction may be free. For instance, sound transmission must not be increased beyond what is usual. Upkeep charges must not be higher, unless the reduction in capital cost is high enough to cover this. In fact, the building must conform to certain unwritten and admittedly loose standards of "livability" obtaining in this country.

Most important of all it must be proved that the system is more economical than those at present in use. This is the rock on which almost all new ideas in construction have been wrecked. Economy is principally a question of first cost, but takes into account upkeep. On the question of first cost certain facts in connection with the Mopin system have been established. The bigger the building scheme the cheaper it is likely to be; in other words, there is a bottom limit (in the size of the scheme) below which the system does not compete with existing methods of construction. It has been found, however, that cost does not rise in proportion to the height of the building as it does with the older methods of construction in which, in particular, scaffolding costs for the floors above the fifth are usually disproportionately high.

Owing to the large use of pre-cast units, transport costs play an important part in the economy of the system. The cost of the building will rise rapidly with the distances over which the comparatively heavy pre-cast concrete units have to be transported; obviously there is a top limit to transport distances. In certain areas a central factory can supply a number of buildings with units, and the licensees are proposing to erect central factories in London, Manchester and Glasgow. In the two large Paris schemes it was found desirable to build temporary factories on the site. In such a factory the first requirement is a good level concrete floor on which the units can be laid out to cure. The walls and roof over this floor can be of the lightest and cheapest temporary construction. The plant consists of ordinary concrete mixers and the vibrating tables, in themselves not difficult to transport. A good arrangement for flow production can then be planned. On the removal of the factory, the floor could be used as the foundation for garages, for tennis courts or as a children's playground. It is, in fact, as necessary to plan beforehand the whole cycle of building operations as it is to design in the fullest detail the structure and its equipment.

The Mopin System. Part of the Bagneux flat scheme which is a typical French expression of the system of construction. It should be realised, however, that the system gives great latitude in design, and is by no means limited to the one shown here

The progress of this most promising system of construction will be watched with interest. It is hoped to arrange an exhibition of the Mopin system at the Building Centre.

COMPULSORY SOUND INSULATION

A definite tendency towards the adoption in Germany of building regulations controlling sound transmission in structures is noted in Building Science Abstracts for November 1933. In Frankfurt new building bye-laws prescribe minimum thicknesses for party walls and stipulate that machinery shall not be fixed to walls so as to cause transmission of noise to dwelling rooms. In Cassel newly-revised regulations stipulate that party walls shall have sound-insulating properties equal to those of a plastered wall approximately 15 inches thick.

These regulations are of interest more as revealing a public demand for sound insulation than as workable examples. A great deal of research will be necessary before regulations that will give exact results can be formulated. It is, for instance, of little use specifying that the material used in walls or partitions

shall have certain resistant properties if those properties are nullified by steel joists or pipes passing through it or if it has settled and cracked at ceiling level. This means that research into sound-resisting properties of individual materials has only a limited value. Full-scale experiments on common types of structure, using assemblies of different materials, are necessary not only to provide a basis for building regulations should these be demanded by the public, but in order to allow architects to satisfy the demands of individual clients. At present, practice in sound insulation is almost entirely empirical, though the individual properties of some materials are known. It is also liable to be very expensive with very little guarantee that the expense will be justified. Nobody, in fact, knows with certainty how noise in building structures is propagated, how it is transmitted or how to prevent transmission efficiently.

The general public, as well as architects, have been told in recent years that acoustics has now become an exact science. It is not, however, generally realised that this statement refers only to one part of acoustics, namely, that concerned with good hearing in auditoria; the other part, the transmission of sound through structures, has been very little investigated. It is true that some general rules have been formulated. For instance, massiveness in structure is known to give good sound-resisting conditions; but the tendency in modern building is towards increasing lightness and thinness: research must therefore be mainly directed towards obtaining good sound-resisting conditions in light structures.

There is little doubt that this question must be taken up by research bodies in the near future, our own Building Research Station and the National Physical Laboratory in particular. Unfortunately full-scale experiment will be costly, and some contribution from industrial bodies concerned would be desirable.

STEEL WINDOWS

[We have received the following letter from Mr. Donald Hope, Chairman of Henry Hope and Sons, commenting on the article on Steel Windows in the 24 February number.]

I have been interested to see the notes on steel windows in the 24 February number and the criticism of your correspondent in the 10 March number, and I should like to offer a few observations, based upon my own experience.

Paint.—I agree with your remarks on this important subject, but I should like to add that the reason why certain housing authorities have had an unfortunate experience with steel windows is mainly because they purchased windows on price alone, without regard to the method of cleaning and painting employed by the manufacturer. The so-called "shop coat," which is so generally used, is almost useless as a protection against corrosion in the early stages of a building where the conditions are more than usually unfavourable.

If a window is properly cleaned of rust and rolling scale and all foreign matter and is painted with a paint of the right quality, afterwards stoved at high temperature, it will withstand the rough handling which you mention in your article.

Wherever possible steel windows should not be fixed until the building is clear of all rough trades, and my last remarks apply to housing schemes and the like, where the practice of "building in" windows has to be followed.

When a window has once started corroding after it has been fixed in the building, it is extremely difficult to clean it so thoroughly as to prevent rust continually forming under the paint.

Sherardising.—It is true that complete frames cannot be treated, but with modern electric welding, the amount of the coat which is removed at the corners is very small, and the corners are not the vulnerable spots of a window. After many years of experiment and practice, I think that Sherardising is the most reliable process now in use for the protection of steel windows.

Glazing Bars.—I do not agree with your correspondent that the only argument in favour of inside glazing is a matter of taste, because there are other points to be taken into consideration. On tall buildings it is undoubtedly easier, and therefore better, to glaze from the inside, and provided hard wood or metal beads are used instead of putty on the inside, this is generally accepted as the best method of glazing a metal window.

I do not think the question of "scamped" work should be considered, nor should "scamping" in any trade be tolerated, and I have seen as much trouble from corrosion where the bedding of putty has been "scamped" with outside glazing as with inside, as condensation can do quite as much mischief as rain.

My firm has used millions of feet of hard wood beads during the last ten or fifteen years, and although they are more expensive than front putty, there is not any doubt about their durability and their good appearance when used on the inside of a window.

Sub-frame for Cavity Walls.—Taking your remarks about our new sub-frame for cavity walls, as well as your correspondent's criticism about the price, I should like to point out this is a new development, designed to provide a real damp-proof course which can be built in by any bricklayer without danger from leakage. It at the same time provides a fire-proof, vermin-proof and indestructible frame, which carries the plaster on the inside and gives a bolder appearance on the outside than is afforded by the usual steel frame.

I do not proposed to follow your correspondent in his estimated figures of the cost of closing the cavities round a window, although these appear to me to be open to doubt, but I do think that he does the modernist young architect an injustice when he suggests that he would not take the trouble to make any calculation about the cost. This is quite contrary to my experience. I should expect him, while keeping a sharp eye upon the cost, to enquire whether the invention is a real improvement upon existing methods in providing security against leakage and decay and in the saving to his client for maintenance and repairs.

CONTENTS OF PRECEDING NUMBERS

November 11th.—Progress in Research, Bricks, Building Stones, Steel, Reinforced Concrete, Timber, B.R.S. Annual Report, Research and slum clearance, Equipment of buildings, Sliding glass doors.

November 25th.—Weathering of Portland stone, Traffic vibration, Lead pipes in clay, Copper dowels in lead and cement, Condensation, Overhead sliding door gear, Pipe pushing.

December 9th.—The formation of blisters on mastic asphalte roofs, Lifting of wall and floor tiles, Sliding glass doors, Fixing devices and plugs.

December 23rd.—Some notes on Door Springs, Floodlighting, Jointing drain pipes with neat cement, Dusting in Concrete Floors, Overhead Sliding Door Gear.

January 13th.—The St. Paul's Foundation Report, Bathing pool surrounds, Electric water heaters and the formation of scale.

January 27th.—The Report of the Reinforced Concrete Structures Committee, Some steel alloys recently introduced, The manhole cover, Tightening wires.

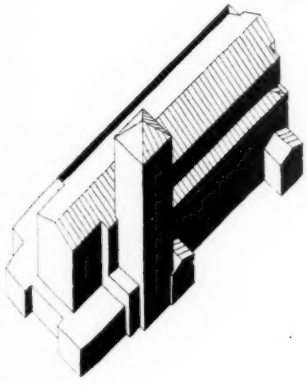
February 10th.—Paper in Building, The D.S.I.R. Annual Report, A Reinforced Concrete Handbook, Reinforced Concrete Practice.

February 24th.—Some notes on Standard Steel Windows, Plaster Failures.

March 10th.—Automatic Firing with Solid Fuel, Steel Windows, Swimming Bath Purification.

The east end faces Boston Road. The calvary is the work of Mr. Eric Gill

THE CHURCH OF ST. THOMAS THE APOSTLE, BOSTON ROAD, HANWELL



Architect: Edward Maufe, M.A.Oxon. [F.]

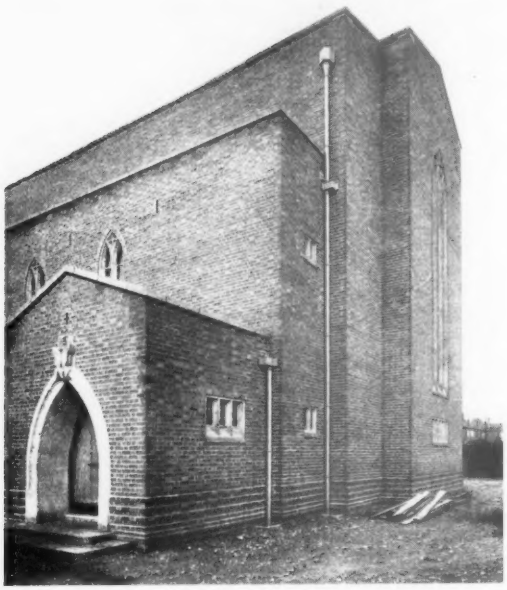
The church serves a rapidly-growing residential district south of old Hanwell. The site is on Boston Road, to which the east end of the church faces. The normal seating capacity is about 400 and the total cost was £14,250. The church has been planned as part of a complete scheme which includes a church hall and vicarage.

FORM

The general form of the building consists of a wide nave and chancel of equal height with passage aisles pierced through the main piers which support a concrete-vaulted roof. Flat-roofed vestries and a morning chapel are grouped round the east end.

THE WALLS

These are of solid brickwork, faced with Tondu (South Wales) silver-grey bricks laid in Flemish bond. The exterior walls have single-course horizontal bands of buff bricks; the spaces between these bands diminish according to height so that

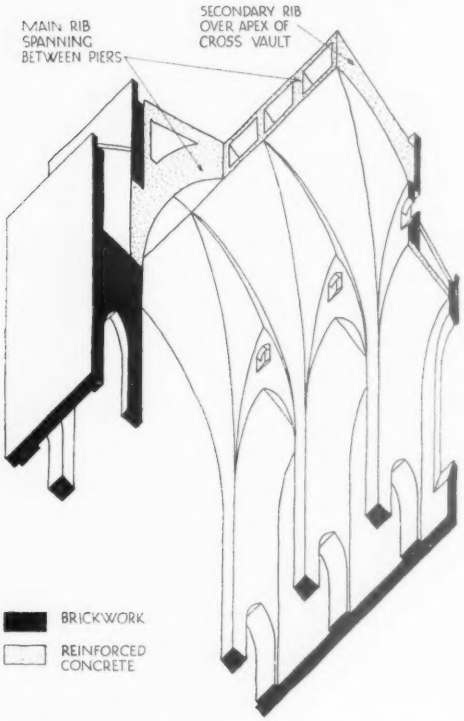


the top courses of the nave walls and tower consist almost entirely of buff bricks. The small amount of dressings and the sculpture are in Weldon Stone. The interior bricks are keyed Flettons, lime plastered and finished with a felt float. The foundations are of reinforced concrete, the raft under the tower being 25 feet square and 3 feet 6 inches thick.

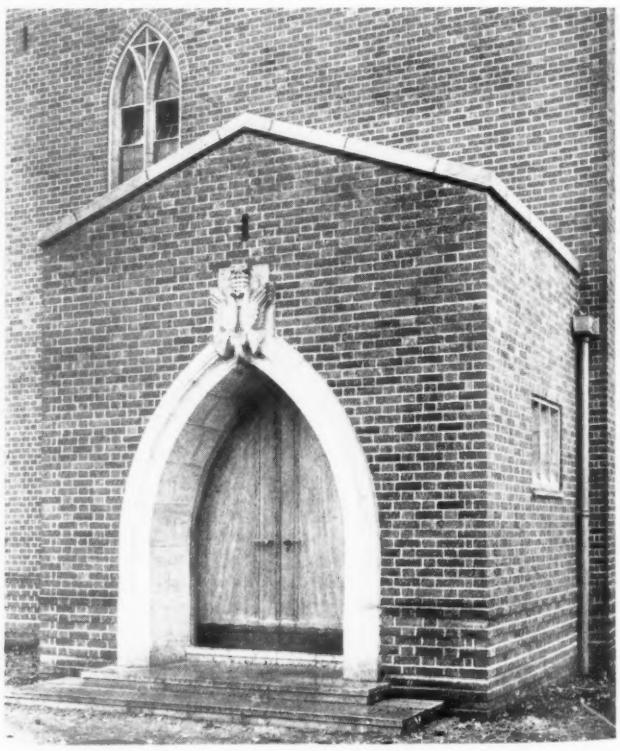
THE ROOF

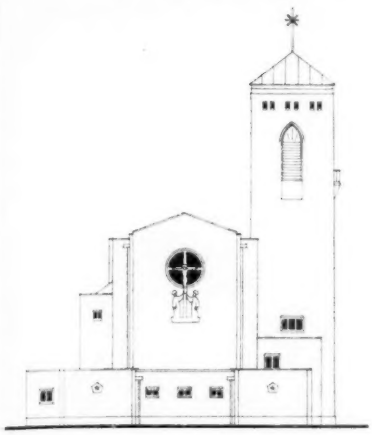
In the reinforced concrete roof the architect has experimented with the construction designed by him for Guildford Cathedral but on a smaller scale. It consists of a lower vault and upper pitched roof, both in thin panels and carried on arched ribs spanning the nave (see sections), the ribs occurring in the space between the roof and the vaulting. The main ribs rise from the natural springing line of the vaulting in the buttresses; secondary ribs, between the main ribs, lie along the apexes of the cross vaults. The vault panels are 3 inches thick up to $4\frac{1}{2}$ inches at the haunches. The concrete consisted of a rapid-hardening cement (Ferrocrete), sand and a washed pit ballast, $\frac{3}{4}$ inch in the main ribs, $\frac{1}{2}$ inch in the vaults. The concrete was mixed in the proportions of a

On the left is a view of the west end, and below a detail of the porch. The keystones of the porches were carved by Mr. Vernon Hill

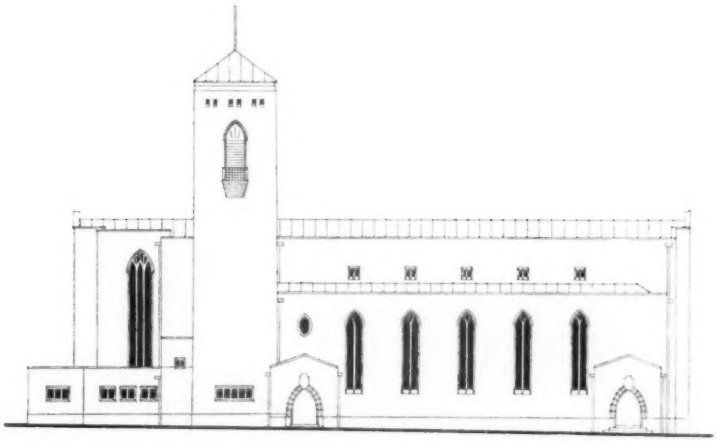


Sketch diagram of the reinforced concrete vault construction

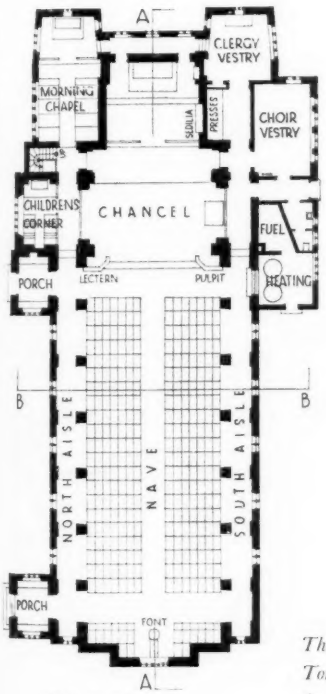




EAST ELEVATION



NORTH ELEVATION



PLAN

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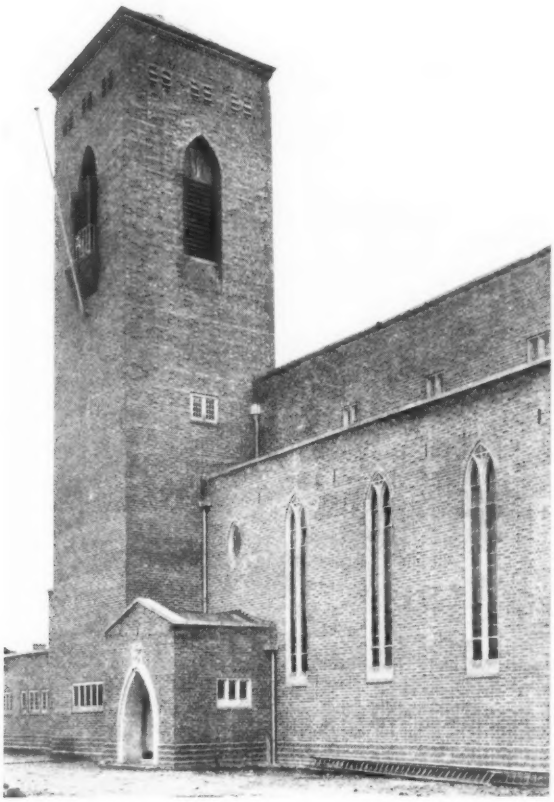
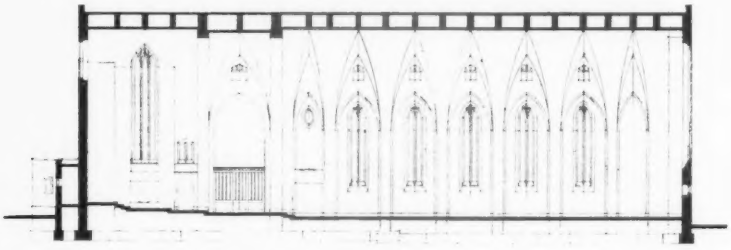


The exterior shows silver grey Tondu bricks, Weldon stone dressings and a copper roof

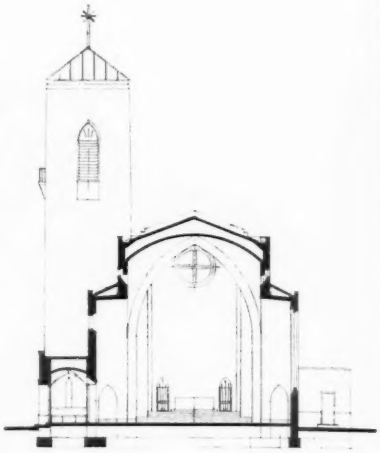
1 cwt. bag of cement to 2¼ cubic feet of sand and 4½ cubic feet of ballast; the question of the amount of water used received special attention. The top forms were struck after 36 hours. *The Structural Engineer was Mr. Burnard Geen, M.Inst.C.E.*

The outer surface of the roof is of sheet copper fixed to plugs in the concrete. The inner surface of the vault is covered with a sprayed asbestos acoustic material as used at St. Wilfrid's Church, Brighton, and described in the JOURNAL of 13 January. This covers the vaults down to the springing and, on the west wall, down to the bottom of the window. The plaster was made to match exactly the colour and texture of the acoustic material.

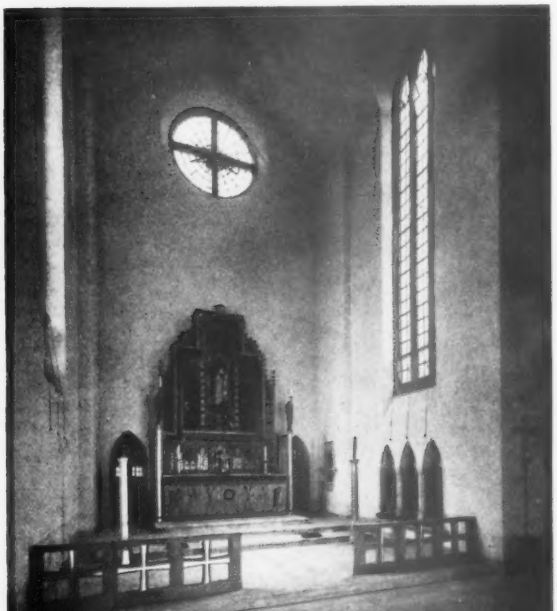
The cross section is taken close to one of the secondary ribs along the apex of the cross vaults



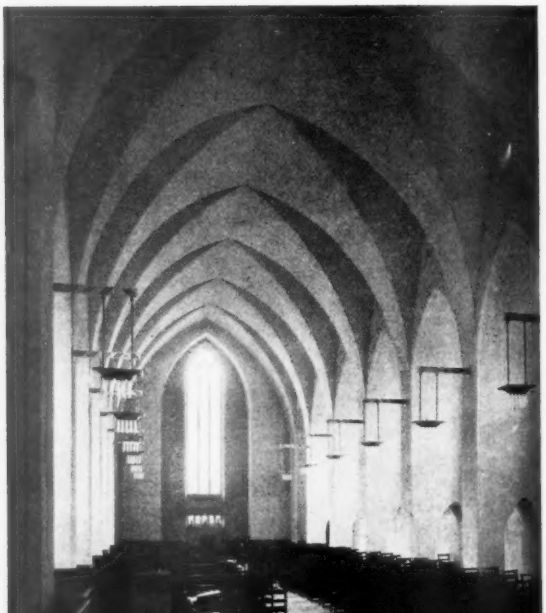
SECTION A.A



SECTION B B



The Sanctuary. The reredos and organ came from an old church



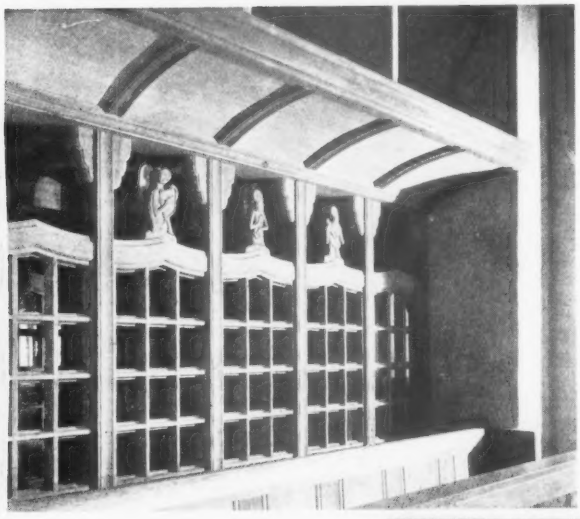
The Nave looking west. Lighting is by groups of tubular lamps

The vaulting is covered with a sprayed asbestos acoustic absorbent which meets and exactly matches the lime plaster of the walls

FINISH AND EQUIPMENT

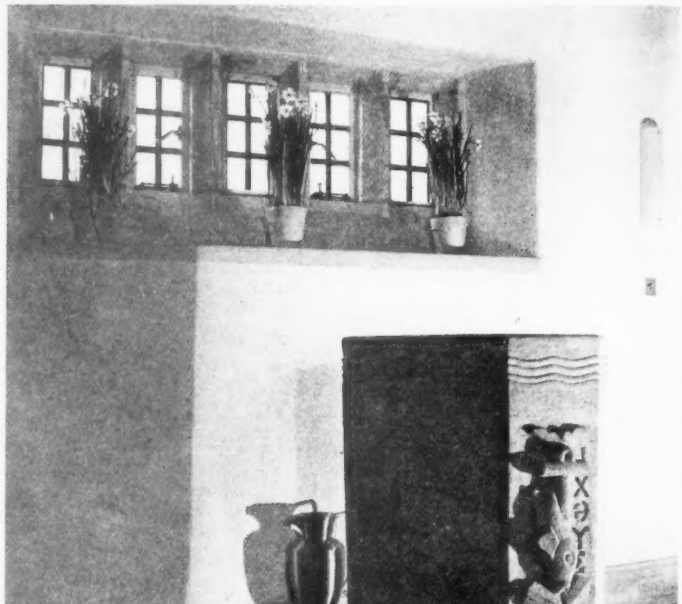
The chancel and sanctuary are floored with Travertine and the pulpit and lectern, in the form of ambones at the sides of the chancel arch, are of the same material. The nave is floored with Ruboleum. The doors, choir stalls and the carved screens between the chancel and the Children's Corner are limed oak. The windows are pale amber, leaded, and glazed with "antique" glass; the stained glass windows in the Children's Corner are the work of Miss Moira Forsyth. The calvary on the east end was carved by Mr. Eric Gill, the font and porch keystones by Mr. Vernon Hill, the oak screens by Mr. James Woodford. The ceiling of the Morning Chapel has been painted with a design of angels and stars by Miss Kathleen Roberts.

Heating is by means of warmed air, the inlet and outlet grilles being near the chancel arch. Artificial lighting of the nave is by means of tubular lights hanging from twelve metal fittings on which are painted the signs of the Apostles. The arches are lighted from tubular lights fixed along the crowns of the arches and the chancel has concealed reflectors.



Left. One of the two limed oak screens which form a passage between the children's corner and the chancel and serve to support the organ loft. The carving is by Mr. James Woodford

Below. The font which has been carved out of a single block of Weldon stone by Mr. Vernon Hill



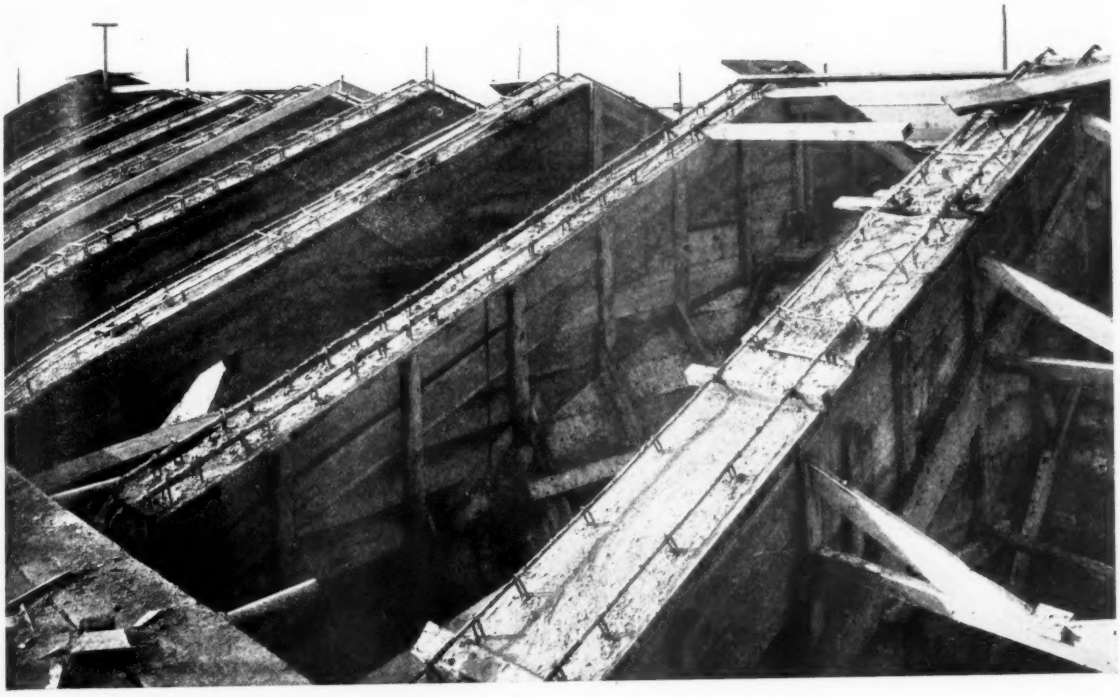
CONTRACTORS AND SUPPLIERS

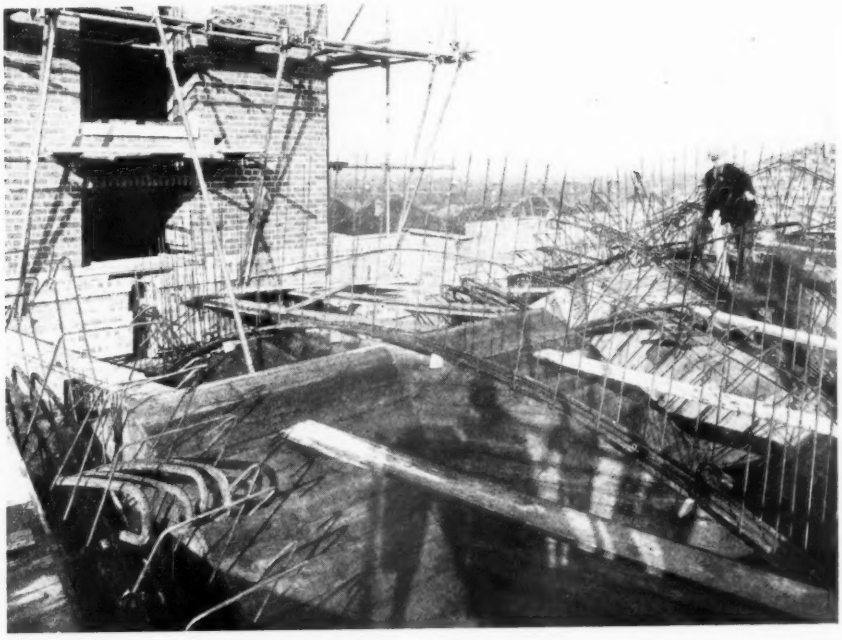
GENERAL CONTRACTORS: Dove Brothers, Ltd.

STRUCTURE: Facing bricks, Tondu Brickworks Co., Ltd. Copper roofing, Fredk. Braby and Co., Ltd. Leaded glazing, Wainwright and Waring, Ltd.

STRUCTURAL FINISH: Acoustic absorbent ("Limpet"), Newall's Acoustic Products, Ltd. Nave flooring, Ruboleum Tile Co., Travertine, Fenning and Co., Ltd. Dome lights and iron stairs, Haywards, Ltd. Rainwater heads, Thos. Elsley, Ltd. Gold tiles, Carter and Co., Ltd. Lightning conductors, J. W. Gray and Son, Ltd.

EQUIPMENT AND FURNISHING: Heating, London Pipeless Heating Co. Electrical work, B. and B. Tate, Ltd. Door furniture, James Gibbons, Ltd. Sanitary fittings, Dent and Hellyer, Ltd. Clergy stalls, Bennet Furnishing Co., Ltd. Ironwork, J. Starkie Gardner, Ltd. Light fittings, Troughton and Young, Ltd. Electric fire, Bratt, Colbran and Co., Ltd. Furnishings, Heal and Son, Ltd., and J. Wippell and Co., Ltd., and Artificers' Guild, Ltd. Chairs, Mealing Bros., Ltd. Aumbry safe and alms boxes, A. R. Mowbray and Co., Ltd. Bell, Mears and Stainbank. Reconditioning of organ, Walker and Sons, Ltd. Memorial tablets and lettering, Eric Munday, Ltd.





Two views of the reinforced concrete vaulting under construction. The upper shows the nave roof before the outer pitched roof panels were placed; the linking reinforcement can be seen projecting from the tops of the transverse ribs. On the right is shown the reinforcement being placed over the chancel; in the left hand corner of the picture is the chancel arch and, in the middle, one of the secondary ribs which follow the apexes of the cross vaults

Review of Practice

REVISION OF THE LONDON BUILDING ACT

Notes on Recent London County Council Minutes

Mr. Louis Blanc [L.] has contributed the following notes on recent work of the London County Council with reference to the London Building Act. Relevant extracts from the Minutes of the L.C.C. are printed in Roman type and Mr. Louis Blanc's comments in italic.

Minutes of 12 December 1933.

A special committee of the Council was appointed in July 1931 to consider the standing orders of the Council in relation to its procedure and the following extracts from the L.C.C. minutes are noted:—

Referring to the work of the Building Acts Committee

The chairman of the Advisory Committee on the Amendment of the London Building Act, 1930, in July 1932 submitted to us a memorandum, with which the Advisory Committee associated themselves, advocating that the administration by the Council of all building matters *vis-à-vis* the public should be placed in the hands of one committee only. In this memorandum it was pointed out that, in addition to the Building Acts Committee, who deal with building matters under the general law, there are the Town Planning Committee, who deal with kindred matters, as well as other committees, *e.g.*, the Entertainments (Licensing), Public Control, and Central Public Health Committees, who deal with structural matters affecting particular classes of buildings (places of public entertainment, petrol and petroleum oil depots, and nursing homes) under special statutory powers of licensing or registration or otherwise. The proposal would thus mean that the duties of a committee such as the Entertainments (Licensing) Committee with regard to the buildings with which they are concerned should be confined to licensing alone, and that the related questions of structure at present dealt with as part of licensing, etc., should be the sole concern of the Building Acts Committee or other Buildings Committee. It may well be that it will be desirable, if and when an amended London Building Act is passed containing, in sufficient detail, specific statutory structural requirements (to take the place of those made by the Council under special powers) relating to places of public entertainment, petrol and petroleum oil depots and nursing homes, to place all such structural questions under the Building Acts Committee or other Buildings Committee, and to have one Licensing Committee to deal solely with questions of licensing (or registration) at present dealt with by the Entertainments (Licensing), Public Control and Central Public Health Committees; but we are of the opinion that in the meantime licensing (or registration) powers and consequent structural powers should not be divorced, and should continue to be exercised by the three committees named.

We are also of the opinion that it may be desirable, when an amended London Building Act has been passed, to place on one committee the duties at present falling on the Building Acts, Improvements and Town Planning Committees, but in the meantime the Building Acts Committee, must, we think, be retained as a separate committee. We suggest, however, that amalgamation of the Improvements and Town Planning Committees should take place at an earlier date and so soon as due experience has been gained of the working of the Town and Country Planning Act, 1932.

The Council decided as follows:—That, in the opinion of the Council, the standing committees of the Council, and special committees with references of a permanent nature, and their duties, on the reconstitution of committees in March 1934, should be as follows:—

Standing Committees—

Building Acts:—Duties as at present, plus naming of streets and numbering of buildings under the London Building Act, 1930; bye-laws as to demolition of buildings under Section 53 of the London County Council (General Powers) Act, 1927; and exits and entrances of new railway stations.

A proposal has been made that all building matters should be placed in the hands of one Committee of the Council.

The intention being that administration from the public point of view would be simplified.

The Council has decided to continue the present procedure until the revision of the Act has been completed, but it is probable that this useful reform may be accomplished in the near future, if the proposal is well supported by the R.I.B.A. and other technical bodies. [L. B.]

Referring to duties of architect and chief officer of the fire brigade

The Council on 23–24 May 1933 (pp. 873–4) made a revised allocation of duties between the architect and the chief officer of the fire brigade in relation to consent to the erection of buildings of large cubical extent, the registration of nursing homes, and the licensing, etc., of places of public entertainment. We have since approved certain liaison arrangements made between these two heads of departments for giving effect to the decisions of the Council.

The change of administration here noted is most important. It will be seen that all structural matters are dealt with by the architect, and that fire brigade deal with fire appliances and inspections only. This change will be welcomed by all architects who have had experience of the previous procedure. [L. B.]

Referring to the Fire Brigade Committee

We consider that the duties at present falling to the Fire Brigade Committee are not sufficient to justify the continuance of a separate committee, and we suggest that the Fire Brigade Committee should be amalgamated with some other committee, preferably either with the Main Drainage Committee, or, seeing that a large proportion of their work relates to staff, with the Establishment Committee. In any case the name "Fire Brigade" should be included in the title of the committee with whom amalgamation is to take place.

The Council decided as follows:—That, in the opinion of the Council, on the reconstitution of committees in March 1934, the undermentioned committees with orders of references as at present should be discontinued and their duties assigned to other committees :—

Standing Committees—

Fire Brigade.

That, in the opinion of the Council, the standing committees of the Council, and special committees with references of a permanent nature, and their duties, on the reconstitution of committees in March 1934, should be as follows:—

Standing Committees—

Building Acts:—Duties as at present, plus naming of streets and numbering of buildings under the London Building Act,

1930; bye-laws as to demolition of buildings under Section 53 of the London County Council (General Powers) Act, 1927; and exits and entrances of new railway stations.

REFERRING TO FUNCTIONS OF CHIEF OFFICERS

London Building Act—Delegation of minor matters to the superintending architect: Many of the items of business coming before the Building Acts Committee relate to relatively unimportant or minor matters under the London Building Act, and in order to deal with these expeditiously the committee have for a long time past adopted a system of what is known as an "omnibus report" of the architect. Recently, they have discontinued their sub-committee and the scope of the "omnibus report" has been enlarged.

The Building Acts Committee raised with us, however, the question whether the Council should seek discretionary power, in connection with the proposed general amendment of the Act, to delegate certain powers exercised by them in minor matters to the superintending architect of metropolitan buildings. The Advisory Committee on the Amendment of the London Building Act, 1930, were accordingly asked to consider this question and also that of the Council seeking discretionary authority to make variations from time to time in either direction between the powers of the district surveyors on the one hand and those of the Council (and/or the superintending architect under delegated authority) on the other hand. The Advisory Committee state, however, that after careful consideration they do not see their way to recommend an amendment of the Act in respect of either of the two matters in question. We accordingly suggest no action.

It will be noted that the Advisory Committee were not prepared to extend the powers of officials. The architect, in practice, includes many of his subordinates. [L. B.]

REFERRING TO DISTRICT SURVEYORS

The Council have decided that the permanent appointment, dismissal and mode of payment of coroners and district surveyors and alteration of coroners and district surveyors districts shall be reserved for decision by the Council itself.

The power of appointment and dismissal being retained by the Council (not a Committee affair) is an important safeguard to district surveyors, and it will be noted they are given the same status as coroners. It will be noted in the extract from the Minutes of 6 February (below) that the duties of district surveyors have been extended to include the supervision of development in town-planned areas. [L. B.]

Minutes of 23 January.

REPORT OF THE IMPROVEMENTS COMMITTEE

Sub-Committees

1. We have concurred in the appointment of a joint sub-committee of the Building Acts, Improvements and Town Planning Committees to consider and report on:—

(i) Applications under the London Building Act, 1930, and/or the Town and Country Planning (General Interim Development) Order, 1933, which relate to important schemes of development, or in regard to which the Building Act or the Improvement aspect may not coincide with the Town Planning aspect;

(ii) Questions arising on approved town planning schemes involving matters of principle affecting town planning schemes generally or involving a variation of the scheme.

2. We have appointed a sub-committee to consider, in consultation with the chief engineer, Sir Frederick Palmer, and, in an honorary capacity, the President of the Institution of Civil Engineers, questions incidental to the invitation of tenders for reconditioning and widening Waterloo Bridge, and in due course to recommend a tender for acceptance. The Minister of Transport has nominated a representative to attend the meetings of the sub-committee.

Minutes of 6 February

REPORT OF THE TOWN-PLANNING COMMITTEE

Supervision of development in town planned areas

1. With the concurrence of the Building Acts Committee, and by arrangement with the District Surveyors' Association, district surveyors exercise supervision over development in town-planned areas, so as to secure compliance with the provisions of the town planning scheme affecting the area. Provision of £300 is contained in maintenance vote 122 in respect of the payment of fees, but we are advised that this will probably be exceeded by £200 as a result of the Council's decisions to prepare additional town planning schemes. We accordingly recommend:—

1. That the supplemental estimate (122A) of expenditure on maintenance account of £200, submitted by the Finance Committee in respect of fees to district surveyors for the supervision of development in town-planned areas, be approved as an estimate of costs, debt or liability under Section 80 (3) of the Local Government Act, 1888.

Agreed.

Minutes of 6 February

REPORT OF THE TOWN PLANNING COMMITTEE

Action taken during the three months ended 31 December 1933, and reported under standing order 188

Joint Sub-Committee

1. In conjunction with the Building Acts and Improvements Committees, we have appointed a joint sub-committee of the three committees to consider and report on certain applications under the London Building Act, 1930, and the Town and Country Planning (General Interim Development) Order, 1933, and on questions of principle affecting approved town planning schemes. We have appointed our chairman and vice-chairman and Mr. Charles Robertson to serve thereon.

Rules

2. We have made rules as follows:—

6. On an application being submitted under an Interim Development Order made under Section 10 of the Town and Country Planning Act, 1932, the clerk of the Council shall ascertain the name of the owner of the property affected and his address or the name and address of his agent, and shall, in any case in which the architect and the valuer certify that it is desirable to obtain the information, request the applicant to state (i) what interest he has in the property affected, and (ii) what personal or restrictive covenants (if any) apply to the land.

7. The decision on an application under an Interim Development Order made under Section 10 of the Town and Country Planning Act, 1932, shall in every case be communicated to the owner of the property affected or to his agent.

On several occasions as Hon. Secretary of the R.I.B.A. Building Act Committee, I have drawn attention to the effect of the Town Planning provisions on certain sections of the London Building Act.

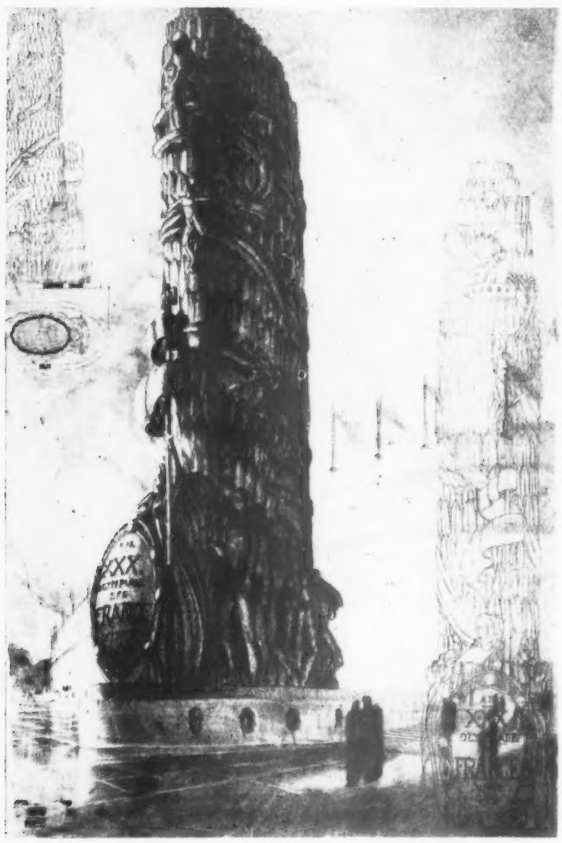
The R.I.B.A. Town Planning Committee were not interested, as no definite proposals were available for consideration. The two extracts indicate that some joint action by our Committees may be desirable. It will also be noted, page 6, that the President of the Institution of Civil Engineers has been appointed to a Committee on the reconditioning of Waterloo Bridge. [L. B.]

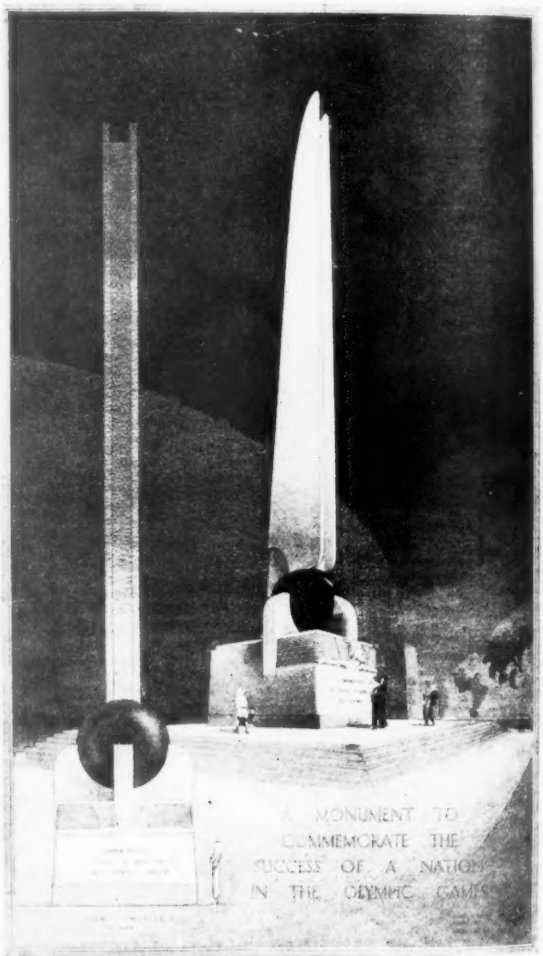
The Eustache-Rougevin Prize

This interesting exhibition, arranged under the auspices of the Franco-British Union of Architects, has given the first opportunity to compare on an equal footing the results of the French and British systems of education. There was no direct competition, as each nation judged and placed its own exhibits, but they were shown side by side. Quite apart from merits of design and draughtsmanship, the French drawings gained enormously by being mounted on strainers, whereas ours were mostly on sheets of drawing paper with passe-partout borders—even the two which were mounted on cards were not free from crinkles and buckling—and looked untidy beside the French exhibit. This point should be remembered in any future competition.

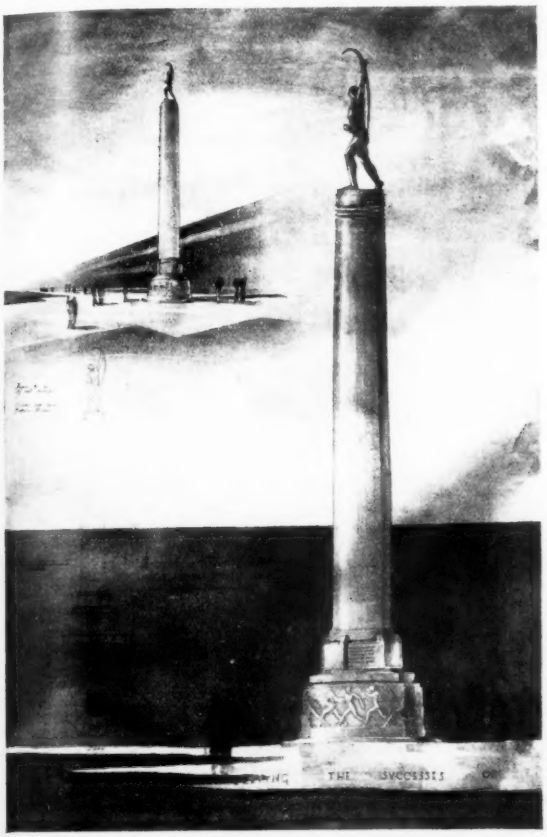
To criticise individually all the twenty-four designs would be tedious and not very profitable. It is more interesting to compare the work of the two nations as a whole.

The French drawings were hung to the left, the British to the right, of a dividing line. The first impression as one entered the gallery was that all the weight had gone to the left, and as all the drawings were to the same scale, a first impression in this respect was not misleading. The





Above. The English winning design by G. A. Crockett, Student R.I.B.A. of the Architectural Atelier of the University of London
To left. The French winning design by Jacques Toutain



THE DESIGN BY H. H. CASTLE

THE DESIGN BY J. PHILIPPON

French had "gone all out" for bulk, and with a restricted site—the longest dimension only 16 feet 5 inches—and a position at the end of a great avenue and in front of the entrance to a stadium, they could bring good reasons for doing so. On the whole, they successfully avoided megalomania, although it is doubtful whether any city in either country could stand up to a stone pylon crowned by a titanic head and pair of arms, reaching up to a height of 85 feet. The statue of Liberty in New York Harbour may be cited in justification, but that is seen across a vast sheet of water and backed and flanked by miles of open landscape. Nor, when all is said, is she reckoned among the world's masterpieces. The British designs may have been timid in scale, but they seemed to acknowledge rather than to crush the scale of any surroundings in which they could conceivably have been set.

Materials were not closely considered on either side of the Channel. Both the winning designs, those of M. Toutain and Mr. Crockett, were apparently to be carried out in reinforced concrete. If so, they would be hopelessly shabby in three years. In M. Toutain's design there were ribbons and pennants which could hardly be executed except in metal, but this was not indicated on the drawing. Metal was only used extensively in one design, a rectangular scheme in stainless steel with emblematical scratchings which would surely be invisible in a large *place* after exposure to the weather.

It was noticeable that the French were freer in draughtsmanship, and especially in the use of the figure, than our men. In a monument of this kind the combination of sculpture with architecture is almost essential. It was used in a masterly manner by M. Toutain, and relief groups, recalling Trajan's column, were indicated by M. Philippon with delightful spirit and a playfulness which, even if it verged on caricature, was beyond the reach of any British competitor. Many of the French

designs were eminently plastic, a quality dangerous in buildings but desirable in isolated monuments.

There can be no doubt that M. Toutain won his prize by force of imagination, appropriateness of symbolism and dignity of presentation. May I be allowed to hint a doubt—or have I miscalculated?—whether he confined himself to the given dimensions? It is one of the articles of our faith that in Paris the conditions of the programme are rigorously enforced, but it certainly appeared as if the longest dimension of his base was not 5·00 m., but 6·66 m., an excess of some 33 per cent.! However, as there was no international award, this fortunately concerned us in the present year only as a matter of international curiosity.

Mr. Crockett is to be congratulated on his choice of a symbol, the globe surmounted by wings, and on the delicacy and reasonableness with which he has worked it out, taking advantage of rather than smashing through the laws of gravity. Some of his rivals evidently think that Einstein has not only supplemented Newton, but turned him heels over head.

It is to be hoped that this is only the first of a long series of Franco-British exhibitions, to include many phases of architectural design. There is much to be learned from a study of each other's qualities and defects, and if some of the French could do with a moderate dose of British shyness, some of our own students would be none the worse for an infusion of Gallic dash and verve.

HENRY M. FLETCHER [*F.*].

The R.I.B.A. Public Lectures on Architecture

THE ARCHITECTURE OF SHOPPING

The fifth in the series of public lectures organised by the R.I.B.A. was given at the Institute on Wednesday, 14 March, when Mr. Maxwell Fry, A.R.I.B.A., lectured on the Architecture of Shopping.

The importance of shopping's contribution to the London façade cannot be denied; the appearance of street after street has been changed and determined by the shops they contain, and in lecturing on this powerful influence Mr. Fry attempted to show the forces at work behind this "London transformation scene." To do this he took the story of the growth of shops to illustrate a sort of "Tradesman's Progress" through the last century, tracing their history from the day of the simple domestic shops to that of the great departmental stores, or, to take individual examples, from the time when Lock's the Hatters first flourished in St. James's Street to the 25th Anniversary of Selfridge's in Oxford Street to-day.

In 1834 when London was still without transport, lighting and newspapers, when the sewage still ran into the Thames and Shepherd's Bush was no more than its name, shopping was small in scale and domestic in character, and Bond Street shopkeepers still lived over their shops. Fribourg and Treyers, the tobacconists of the Haymarket, and Lock's the Hatters are typical survivals of this stage of shopkeeping, a stage which was soon replaced by the metropolitan magnificence of the old Regent Street. Forming part of the Regent's processional way, it was designed by Nash as part of his plan for a city which was to be worthy of the rising importance of English trade and commerce, and in this elegant and important street shopping did a roaring trade. These halcyon days of elegant and prosperous trade were soon disturbed by the rapid growth of an industry which, spreading from the north, soon ate up the Regency whole and left behind it a heritage which later generations have not yet succeeded in clearing up.

Out of the industrial revolution gradually emerged three dominant factors in the development of shopping. Plate glass, steel and electricity were invented, giving to shops the benefits of large windows, clean and mobile light and power; transport developed; and, perhaps most important of all, the population increased enormously and a vast middle class, for which all shops primarily cater, emerged into prominence and prosperity.

These factors led to the rapid development of shopping on new lines, and the departmental store developed from the time of Whiteleys, the first "Universal Provider," till it reached its zenith in the modern Selfridges which is no longer a mere shop but a monument to shopping. The rising shopkeepers were not slow to use architecture as an expression of power. If at this stage there had existed architects sufficiently imaginative to understand the significance and importance of the problem, many London streets would have been spared the ugliness and vulgarity which have spoilt them, often irredeemably, in the last century. But at that time architects were too gentlemanly to stoop to the problems of commerce, and the business of building shops was too often left to the contractor or shopfitter, which is why our streets are so often dreary and vulgar and meretricious. As one example of how utterly the architects of the last century failed to tackle the problem on new lines, there is the controversy that everywhere arose over the use of glass. The monumental style of building then in vogue required a good solid base for its magnificence, a need which did not harmonise with the shopkeepers' natural desire to have a ground floor of windows for the display of his goods. Architects engaged in a long battle for the architectural soul of buildings. In the case of Harrods the architect lost; in the Army and Navy Stores he won; in Selfridges he contrived a magnificent, and in Heal's a more subtle compromise. This complete failure to recognise that there could be an architecture of plate glass did much damage, and to it is due the vulgarity of stores like Woolworth and the United Dairies and countless others, where the true use of glass is completely misunderstood.

Speaking of the position to-day, Mr. Maxwell Fry said that competition and the study of persuasive display is leading to the design of many excellent small shops which show real understanding of the particular problems of shop design and the right use of materials, though nowhere yet is there a large store fittingly designed. Technically and structurally we can do what we want to-day; we can raise our shops to the heavens or sink them underground. What we must do is to bring back the sense of unity and appropriateness which distinguished the old Regent Street, and to realise that the only architecture that can be of any value to us is that which draws its sustenance from the structures arising out of the materials of to-day—steel, concrete, glass and plywood. Shop architecture might then be raised to levels not reached in the last 100 years.

Book Reviews

THE COLLEGE OF VICARS CHORAL, EXETER

THE CUSTOS AND COLLEGE OF THE VICARS CHORAL OF THE CHOIR OF THE CATHEDRAL CHURCH OF ST. PETER, EXETER. *By the Rev. J. F. Chanter. Exeter Diocesan Architectural and Archæological Society Transactions. Vol. V. Part 1. 3rd Series. Exeter, 1933.*

Since the College of Vicars Choral at Exeter is likely to be brought to an end this year, the tribute which Prebendary Chanter pays it in this brief history is both fitting and opportune. His account of its long history of nearly 900 years is very readable, while the drawings which illustrate it are interesting in themselves and well reproduced. It is only a pity that apparent lack of careful revision should have failed to remove blemishes from the writing.

Colleges of Vicars Choral were attached to the cathedrals of the old foundation and this one at Exeter seems to have been a typical specimen in all but one respect. Alone among its peers it could claim the rank of a royal foundation, having been granted a charter by Henry IV in 1401. Achieving this distinction was, however, the only notable thing it ever did. In the service and under the shadow of the cathedral it pursued a quiet and uneventful career, chiefly enlivened by periodic squabbles with the Dean and Chapter. The vicars lived in a manner not unlike that prevalent at the universities. They had their own rooms on either side of an enclosed courtyard, the only entrance to which was through their own gatehouse. Commons were served to them from the buttery and they dined together in hall. They had their own library, common-room and garden, but not, it appears, a chapel. Governed by their own statues, they enjoyed a position of semi-independence; yet there is no evidence to show that—at any rate by comparison with the canons—they were unduly lax in the performance of their cathedral obligations.

The college, however, does not seem to have been altogether well managed. The houses were, perhaps, uncomfortable and both priest- and lay-vicars sometimes elected to let them rather than live in them. After the Civil War there was no real community life, although in the eighteenth century we catch visions of the vicars meeting in hall for an evening's music over wine and punch. No doubt it was owing to the failure to preserve the fundamental collegiate requirement of communal residence that a slow decline overtook the fortunes of the college. Now, as at Salisbury, its buildings consist only of the hall—a good room with fine panelling and roof, some old furniture, portraits and plate—but itself curtailed in size by the loss of the screens passage and gallery above. Originally this hall stood at the western end of what was in effect a rectangular enclosure with houses on each side separated by small gardens from a central roadway. A gateway at the eastern end led to the close, entering it almost opposite the west front of the cathedral. In essentials the plan was similar to that of the Vicars' Close at Wells, though on a smaller scale. The surviving half of the Vicars' Close at Chichester may suggest something of the appearance of the Exeter houses. Their gradual destruction during the last century is very much to be regretted. Though they had been greatly altered from time to time and represented a patchwork of different periods, their irregular and venerable aspect must have been highly picturesque and to-day would have secured their reconditioning and preservation.

As it is, we have to mourn not just the loss of the buildings, but the approaching dissolution of the college itself. Few will disagree with the conclusion of this paper in which, in restrained but weighty language, Prebendary Chanter deplores this step as a "sad event" and sees in it the loss to the cathedral of "a stabilizing force." S. E. DYKES BOWER [*A.*].

THE TIVOLI CORNER OF THE BANK OF ENGLAND

A SHORT ACCOUNT OF THE EVOLUTION OF THE DESIGN OF THE TIVOLI CORNER OF THE BANK OF ENGLAND BY SIR JOHN SOANE, R.A., 1804-5. *By Arthur T. Bolton. Issued by the Trustees of Sir John Soane's Museum as a protest against any alteration of the design and as a record. Soane Museum publication No. 15. London. 1933. 6d.*

No feature of Soane's Bank of England has in the past attracted more admiration than the "Tivoli Corner," at the angle between Lothbury and Princes Street, and of all the inevitable changes made in the rebuilding none have perhaps excited more anxiety than the prospect of the disappearance of the attic storey to the portico, for in this more than in any other part could be seen to the full the working of Soane's own peculiar genius and his power of touching with originality and sympathy the most difficult features of classical design.

Mr. Bolton has rendered a valuable service by recording in this small pamphlet the history of the design of the portico and by reproducing four drawings and two models showing its evolution from the first rough sketch of 16 September 1804 to its final form in June 1805. The portico, regarded by Soane's contemporaries as the masterpiece and exemplar of his work, was depicted on the reverse of the medal presented to him in 1835 by the Architects of England, and since 1838 presented to the winners of the R.I.B.A. Soane Medallion scholarship.

THE ARCHITECTS' DIARY AND TECHNICAL REFERENCE, 1934. *Issued by the Architectural Association. London. 1933.*

The second edition of the Architectural Association's Technical Reference Book which has appeared as a weighty appendage to the Association's Diary is one of the best reasons we have yet seen for belonging to the A.A. We have heard legends of grand pianos being given away to every purchaser of a pound of tea—possibly in America in the great prosperity era—of pills being worth a guinea a box and of tails wagging dogs—all of which are realised in this admirable book. We have some knowledge of the care and time spent in assuring that the information given should be accurate and comprehensive, and for the success with which the task has been completed those responsible deserve every congratulation.

ACCESSIONS TO THE LIBRARY
1933–1934—VI

INCORPORATING
NOTES ON RECENT PURCHASES

(*These Notes are published without prejudice to a further and more detailed criticism.*)

Lists of all books, pamphlets, drawings and photographs presented to, or purchased by, the Library are published periodically. It is suggested that members who wish to be in close touch with the development of the Library should make a point of retaining these lists for reference.

Books presented by Publisher or Author marked R.
Books purchased marked P.
* *Books of which one copy at least is in the Loan Library.*

LEARNED SOCIETIES

EXETER DIOCESAN ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY
Transactions 1933. (Vol. v, part 1.) 3s.
(*Including* J. F. Chanter. The Custos and college of the vicars choral of the choir of the cathedral church of St. Peter, Exeter.)

GOVERNATORATO DI ROMA
Bullettino della Commissione Archeologica comunale di Roma, et Bullettino del Museo dell' Impero Romano. Anno. L.X. 1933.
(*Including* A. L. Pietrograno. Sarcofago Policromo.
G. Rosi. L'Arco detto di Druso.
G. Lugli. Villa Adriana.)

WALPOLE SOCIETY
xxi volume. 1932-33.
(*Including* J. G. Mann. English Church Monuments. 1536-1625.

BUILDING

STRUCTURAL ELEMENTS

SMITH (R. C.)
First year building mathematics.
7¼″. vii+167 pp. London: Pitman. 1934. 3s. 6d. P.

MATERIALS

CHALK (J.), DAVY (J. B.) *and others*
Twenty West African timber trees. (Forest trees and timbers of the British Empire. ii.)
9½″. 108 pp. Oxford: Clarendon Press. 1933. 7s. 6d. R.

CONSTRUCTION

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH: BUILDING RESEARCH
Note on the bedding of tiles. (Note no. 462. Nov. 1932.)
12¾″. Typescript sheets. 1932. R.

THE INSTITUTION OF STRUCTURAL ENGINEERS
Recommendations to clerks of works and foremen concerning the execution of reinforced concrete works—(Revised and enlarged edition).
pam. 8½″. London. 1918 (*Revised* 1934). 6d. R.

SCOTT (W. L.) *and* GLANVILLE (W. H.)
Explanatory handbook on the code of practice for reinforced concrete.
9½″. xii+143 pp. London: Concrete Publications. 1934. 8s. R.

SANITARY SCIENCE AND EQUIPMENT

DENT AND HELLYER *Ltd. Publishers*
The "Gland" system of copper waste pipes with expansion joints.
pam. 7¼″. London. [1933.] *Presented by the publishers.*

DENT AND HELLYER *Ltd. Publishers*
The One pipe system for the simplification of plumbing.
ob. pam. 7″×5″. London. [1933.] *Presented by the publishers.*

DENT AND HELLYER *Ltd. Publishers*
The Simplification of plumbing. The one pipe system.
pam. 6½″. London. [1933.] *Presented by the publishers.*

ELECTRICAL INDUSTRIES—*Journal*
Architects and builders supplement, Feb. 14, 1934.
4o. 13¼″. London: Electrical Press. 1934. 1s. R.

ASSOCIATION OF ENGINEERING AND SHIPBUILDING DRAUGHTSMEN
An Introduction to the heating and ventilating of buildings. By W. E. Williams.
pam. 8½″. London. 1933. 2s. P.

CANTRILL (W. H.) *and* SUTHERLAND (W. G.)
Paper hanging. A practical manual for the use of instructors, students and craftsmen.
6½″. 95 pp. Manchester: The Sutherland Publishing Co. [1933.] 1s. R.

PROOFING

PURVES-STEWART (*Sir* JAMES), ELLIOT (F.), BAGENAL (HOPE) *and others*
The Noise evil and its abatement. (*From* The Listener. 10 Jan. 1934.)
4o. sheets. 13″. London. B.B.C. 1934. 3d. P.

PERIODICAL

MAANDSCHRIFT DER K.M.B.A.
The Monthly journal of the *Royal Society of Architects of Antwerp*. This journal is now received by the library.

TOWN AND COUNTRY PLANNING

JELLICOE (G. A.)
*Advisory plan and report for the parish of Broadway in Worcestershire.
pam. 10″. London. 1933. (2) *Presented by the author.*

PRESERVATION OF AMENITIES

THE SOUTH EASTERN SOCIETY OF ARCHITECTS
The Town and country planning act. Notes on the working of architects' advisory panels. By R. G. Lovell.
pam. 8½″. Eastbourne. 1933. 3d. R.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND
Cautionary guide to Dublin.
pam. 9¾″. Dublin. 1933. 6d. *Presented by the R.I.A.I.*

DRAWINGS

STEVENS (EDWARD)
3 coloured pictorial sections and elevations of house, and diploma, c. 1750. *Presented.*

ENGRAVINGS

STODART (G.)
Albert Memorial—Sculptured reliefs.
4 engraved sheets. [1865.] *Presented by Mr. C. H. Mabey.*

PORTRAIT

BEECHEY (*Sir* WILLIAM), R.A.
Mezzotint of the portrait of Carr of York, in the possession of Colonel J. R. Parker. *Presented by Mr. Sydney Kitson [F.].*

PHOTOGRAPHS

CARR OF YORK
Photograph of the portrait of Carr of York in the possession of Colonel J. R. Parker. *Presented by Colonel J. R. Parker.*

GIBSON (JOHN)
Photograph of John Gibson. *Presented by Mr. C. H. Masey.*

ARMSTEAD (H. H.)
Albert Memorial sculptures. 16 collotype sheets. [1865.]

FOLEY
Albert Memorial sculptures—corner groups. 3 sheets. [1865.]
Design for National Gallery. 1 sheet.
The above photographs with certain others have been presented to the Library by Mr. C. H. Mabey.

RENAISSANCE ARCHITECTURE.
150 photographs of European Renaissance buildings. P. 1 each.

Review of Periodicals

CIVIC BUILDINGS

ARKITEKTEN (HELSINGFORS). *Vol. XXXI. No. 1.*

The greater part of this number is devoted to a study of buildings in the city of Tampere-Tammerfors, of which the power station, several factories and the telephone exchange are illustrated.

SHOPS

ARCHITECTURAL RECORD. *Vol. LXXV. No. 2. February.*

Shops—two articles on the alteration of small shops to meet modern needs, and store buildings and "neighbourhood" shopping centres—the latter with much useful data about planning shops, motor parks and site location.

CHURCHES

ARCHITECTS' JOURNAL. *Vol. LXXIX. No. 2043. 15 March.*
ARCHITECT AND BUILDING NEWS. *Vol. CXXXVII. No. 3404. 16 March.*

Mr. E. B. Maufe's new church at Hanwell, Middlesex, a brick structure with concrete groined roof.

BAUMEISTER. *Vol. XXXII. No. 3. March.*

Illustrations of the very interesting modernisation of a small church at Oberfilden, Zurich (A. H. Steiner).

MUSEUM

CASA BELLA. *Vol. VII. No. 74. February.*

I Musei viventi. A very valuable illustrated article on museum design showing examples from Italy and Germany, the modern simple methods of display and the subordination of architectural features to the purpose of exhibition.

SCHOOLS AND UNIVERSITIES

BOUWKUNDIG WEEKBLAD. *1934, No. 11. 17 March.*

A general article on the Paris Cité Universitaire, illustrating most of the completed buildings—a most entertaining study of national styles from the Swiss building by le Corbusier to the desperately orthodox buildings of many other nations. The article contains a clear site plan.

ARQUITECTURA. *Vol. XV. No. 174. October 1933.*

Illustration and description of the senior Architectural School in the University of Madrid (D. P. Bravo and M. Lotero), which is far larger than any similar building in this country. An interesting plan: part of the building skeleton is almost completed.

RECREATION CENTRE

BYGGMASTAREN. *Stockholm, 1934. 3. 7 March.*

Municipal parks and recreation centres, a study of the siting and social questions involved, examples illustrated from London, Hanover, Frankfurt, Cologne, New York and Stockholm. The central open air swimming bath at Stockholm is illustrated and described in detail (architect Nils Grafström).

SWIMMING BATHS

LA CONSTRUCTION MODERNE. *Vol. XLIX. No. 25. 18 March.*

The greater part of this number is devoted to a well illustrated article on Swimming Baths, the article corresponds to that recently published in this JOURNAL, and contains much valuable information and illustrations of a number of good examples. One interesting development, which we have not seen before, is the use of open air baths as skating rinks in winter. The standard dimensions to conform to the Fédération français de Natation are given in full.

HOSPITALS

ARCHITECT AND BUILDING NEWS. *Vol. CXXXVII. No. 3404. 16 March.*

Llandough Hospital, Cardiff (Willmott and Smith [*F/L.*]). Photographs and plans of the first part to be completed. A large central administrative block with five ward blocks on the pavilion system running NNE and SSW, each block having two 34-bed wards, with kitchens, X-ray and operating departments on N side of the main connecting corridor.

ARCHITETTURA. *Vol. XIII. No. 2. February.*

The Bruno Granelli Institute of Pathology and Medicine at Milan (E. Griffini) includes a good small lecture theatre.

CINEMAS

ARCHITECTS' JOURNAL. *Vol. LXXIX. No. 2042. 8 March.*
ARCHITECT AND BUILDING NEWS. *Vol. CXXXVII. Nos. 3403-4. 9-16 March.*
BUILDER. *Vol. CXLVI. No. 4753. 9 March.*

All have good articles and photographs and details of the Curzon Cinema, London (Burnet, Tait and Lorne).

CONSTRUCTION MODERNE. *Vol. XLIX. No. 23. 4 March.*

L'Eldorado Cinema, Paris (P. Dubreuil), is very fully described and illustrated.

HOUSING

ARCHITECTURAL RECORD. *Vol. LXXV. No. 2. February.*
ARCHITECTURAL FORUM. *LX. No. 2. February.*

Both publish special numbers on American housing and slum policy and finance, illustrating schemes in several cities. The *Forum* has a six-page article by Sir Raymond Unwin on England's housing example.

CONSTRUCTION

BUILDING. *Vol. IX. No. 3. March.*

Details of the construction of the R.I.B.A. building are described and well illustrated by a large number of clear isometric drawings. The rest of this number is especially devoted to various aspects of construction and equipment. E. G. Warland deals with Fabric, *i.e.* walls, stanchion coverings, etc.; O. P. Bernard [*F.*] with Finishes; C. W. Glover with Acoustics, with particular reference to foundation and structure; Oscar Faber [*Hon. A.*] with mechanical equipment; J. R. Leathart [*F.*] with damp-proofing.

CHANTIERS. *Vol. I. Nos. 9-10.*

Articles on the construction of the Havre Maritime station and the Paris Central Telephone building, both reinforced concrete buildings, and an article on the design of reinforced concrete vaulting.

CONCRETE. *Vol. XXIX. No. 3. March.*

The New Concrete code as applied to design. The first part of a very useful explanatory article by C. E. Reynolds.

EQUIPMENT AND FURNITURE

CHANTIERS. *Vol. I. Nos. 9-10.*

Lightning danger and means of protection—a short but informative article by E. Penin.

TOWN PLANNING

ARCHITETTURA. *Vol. XIII. No. 2. February.*

Plans submitted in a town planning competition for Terni; includes schemes for suburban development and for the improvement of the old town.

CASA BELLA. *Vol. VII. No. 74. February.*

Italian Piazzas: an article on the planning of piazzas, with special reference ratio of the height of buildings to open space area.

HISTORICAL AND ARCHÆOLOGICAL

QUARTERLY OF THE DEPARTMENT OF ANTIQUITIES IN PALESTINE. *Vol. III. No. 4.*

A detailed and illustrated description of the excavations of the Pilgrims Castle, 'Atlit, by C. N. Johns.

Correspondence

CONTRACT UNDER SEAL

5 Paper Buildings,
Gray's Inn,
10 March 1934.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—In the JOURNAL for 1926, 14 August, the Practice Standing Committee reminded members who were entering into contracts with local authorities that they should satisfy themselves that such contracts were in proper legal form. This advice probably was suggested by the case of Nixon *v.* Erith (JOURNAL, 1924, p. 26), where Bailhache, J., in his judgment, said: "Therefore, there being no contract under seal, I am obliged to find that, although this gentleman has done the work and the Council have had the benefit of his services, he cannot recover." The claim in that case was prohibited because of the Public Health Act, 1875, Section 175 (i), which says: "Every contract made by an urban authority, whereof the value or amount exceeds fifty pounds, shall be in writing and sealed with the common seal of such authority." The Legislature has now repealed this section by virtue of the Local Government Act, which comes into operation on 1 June, and Section 266 provides that a person entering into a contract with a local authority (now defined by Section 305 as the council of a county, county borough, county district or rural parish) shall not be bound to inquire whether the standing orders of the authority which apply to the contract have been complied with, and all contracts entered into by a local authority, if otherwise valid, shall have full force and effect, notwithstanding that the standing orders applicable thereto have not been complied with. I take the liberty of sending this note in the hope that it may be of interest to my confrères.—I am, dear Sir, yours faithfully,

W. E. WATSON [*F.*]

THE PLANNING AND DESIGN OF PUBLIC AND PRIVATE SWIMMING BATHS

45 & 46 New Bond Street,
W.1.
13 March 1934.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—In my article published in the R.I.B.A. JOURNAL of 13 January, I called attention to the paper published by Dr. J. A. Braxton Hicks, M.D., M.R.C.P., D.P.H., and Dr. Pulvertaft, M.D., M.R.C.P., in which reference is made to the Ministry of Health's booklet on "The Purification of Water of Swimming Baths." These gentlemen together with Mr. F. R. Chopping did not entirely agree with the recommendations of the Ministry in regard to the proportions of chlorine desirable in swimming bath water.

I am to-day informed by an official at the Ministry of Health that Dr. J. Alison Glover, one of the authors of the Ministry's booklet, replied to this criticism in the *British Medical Journal* of 7 October last.—Yours faithfully,

KENNETH M. B. CROSS [*F.*].

HOUSING

30 Portland Street,
Southampton.
12 March 1934.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—It is good news that the R.I.B.A. is giving earnest attention to the question of design of houses, for as was said in a recent number of the JOURNAL there is the possibility of an increase in the rate of building without any proper safeguards as to quality in design.

Even the National Housing and Town Planning Council in advocating quantities of houses say nothing about quality.

I suggest that probably the most effective method to secure improved design would be the second referred to in your comments, namely, by basing it upon Social Service.

I am acquainted with the activities of Public Utility Societies and commend them to R.I.B.A. members as worthy of support. Some of these Societies build houses and sell them in the same way as a speculating builder, but the houses are, of course, superior and usually designed by an architect.

I cannot see any reason why architects should not promote the formation of these Societies all over the country and by so doing stimulate enlightened enterprise.—Yours truly,

HERBERT COLLINS [*A.*].

THE PLANNING OF LONDON

Norfolk House,
Norfolk Street,
Strand, W.C.2.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The subject is without doubt of national importance and most will agree that any department of the State competent to assist in the study of the problems arising should be willing to co-operate by every possible means.

Ordnance surveys, of which our country may be proud, are in places, alas, so out of date as to be inadequate for the purpose, and consequently misleading. This much by way of preface to an expression of hope that the Royal Air Force may offer to prepare a series of aerial photographs of districts most urgently demanding attention. Such records would be of great value to the planner and, incidentally, more readily understood by the general public than any map. This is a matter of no little importance.—Yours faithfully,

FRANCIS HOOPER
[*Retired Fellow*].

"A HISTORY OF LINGFIELD"

The Guest House,
Lingfield,
Surrey.
21 February 1934.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—My co-editor and myself wish to express our thanks for the review of the above, which appeared in the JOURNAL of 10 February. May I mention, however, that, owing to the demand, we have felt justified in risking the issue of a second edition, which is now ready, and copies may be obtained from either Mr. S. Hazell, The Garth, Lingfield, or myself. (Cloth 2s. 6d., paper boards 1s. 6d. Postage, 3d. extra.)—I am, Sir, Yours faithfully,

ARTHUR B. HAYWARD [*F.*].

Obituary

HENRY WILSON

Henry Wilson, who died in Mentone on the 7th of this month, was an architect and craftsman not widely known to the general public. He was extremely modest and it was always difficult to get him to speak much of his own works. Indeed, this reticence applied to his own early life and training, but this much may be said. He was born in Liverpool in 1864, son of a schoolmaster who had artistic gifts and under whom Wilson had a preliminary training before going to the Kidderminster Art School, and from there to be apprenticed to an architect in Maidenhead. He then came to London and worked in the offices of John Oldrid Scott, John Belcher, R.A., and finally in that of J. D. Sedding. With the latter he collaborated on several important buildings, the best known of which is, perhaps, Holy Trinity, Sloane Street. Here Wilson was wholly responsible for the iron railings outside and the screens, bas reliefs, figures on the capitals and panels in the interior.

After this period, although he did not relinquish architecture, he devoted himself more to metal work, jewellery and enamelling, and later to sculpture. Dr. J. Cromar Watt, of Aberdeen, another jeweller and enameller, describes Wilson's jewel work as being "unsurpassed for beauty, imagination and intricacy of execution."

In 1902 Wilson published a book on "Silverwork and Jewellery" for the Artistic Craft series, of which the late Professor W. R. Lethaby, an intimate friend of Wilson's, was the general editor.

In 1906 Wilson was awarded the German National Gold Medal for work shown at the Dusseldorf Art Exhibition and in 1927 the silver medal of the Société des Artistes Français.

In 1927 he was elected Master of the Art Workers' Guild, but previous to this, following the death of Walter Crane, Henry Wilson was elected President of the Arts and Crafts Exhibition Society. It was under his enthusiastic direction that an exhibition of this Society was held for the first time in the rooms of the Royal Academy, Burlington House. The somewhat sombre rooms were completely disguised and transformed into a series of interconnected halls, each of which was designated a "Domus," culminating in, first, the Hall of Heroes, and finally in a domed octagonal chapel with four altars or chancels, each designed by a different architect or craftsman. In this elaborate scheme the "Hall of Heroes" contained large cartoons to represent frescoes by such men as Sydney Lee, Gerald Moira, Harold Speed, Joseph Southall and Walter Bayes. Other large paintings were contributed by Charles Sims, Maurice Griffenhagen, George Clausen and Anning Bell, and an immense painting by Augustus John, now hanging in the Tate Gallery. Derwent Wood, Gilbert Bayes and others contributed to the sculptured figures and ornaments in the general lay-out of the rooms. Wilson was the only man who could have brought together into this great decorative scheme the work of such distinguished artists of different schools and individually of such varied temperaments. They formed when thus gathered together a gorgeous background to the equally interesting and varied display of the handicrafts exhibits.

The following is a list of the more important of Wilson's works, taken from some rough notes of his own, but not in any way arranged in order of date:—

Architecture.

St. Peter's Church, Ealing.

Bournemouth.—Tower of St. Clement's.

Coventry.—Carving on the Town Hall and clock; statues.

House and Lodge at Maybury, Woking.

Welbeck Abbey.—Chapel, Library, Corridor and Entrance Hall.

His own house at Platt, Kent.

Metalwork, Stained Glass, etc.

Pulpits, Tombs, Reredoses, Crosses, Bronzes, Maces, etc., at Kemsing, Kent; St. Duyfrigs, Cardiff; Ripon Cathedral; Batsford Park; St. John's Church, Cirencester; Rawtenstall Church; St. Augustin's, Highgate; Durham Cathedral and Aberdeen.

Jewelled silver cross and crozier for Exeter Cathedral.

Bronze doors for St. Mary's, Nottingham.

Bronze doors for the Salada Tea Co.'s premises in Boston, and finally, and only recently completed, a pair of bronze doors, each measuring 12 feet by 18 feet, for the Cathedral of St. John the Divine in New York.

It is probable, however, that Wilson's reputation and claim to distinction will be found to rest ultimately upon the superb monument which he created for the reconstructed tomb of Bishop Elphinstone in King's College, Aberdeen. His enthusiasm in this case carried him so far beyond the instructions of his employers, that another site had to be found for it in the centre of the Ante-Chapel—a most fortunate accident for both tomb and Ante-Chapel. Hardly anywhere in this country or abroad can be found such a shrine housed in so fit a setting. The Curator of the Aberdeen Art Galleries wrote of it: "The University and the art treasures of Scotland are immensely enriched by the accomplishment of that noble memorial to Bishop Elphinstone."

From what has been said above, it is easy to gather that Henry Wilson was personally the most charming and attractive of men. In a quiet but convincing way, he infected his colleagues and assistants with enthusiasm equal to his own. He rarely created opposition, and seemed to delight in subduing and converting doubters by his gentle persistence. His ideals were the same, but his nature was the very antithesis of the great forerunner, the forthright and fiery craftsman, William Morris.

Henry Wilson married Margaret Eleanor Morse, whose death in 1931 was a loss which clouded the remainder of his life. He leaves one son, an engineer in India, and three daughters, of whom Orrea Pernel has now become well known as a distinguished violinist. F. W. Troup [*F.*].

JACOB REES [*L.*]

Mr. Jacob Rees, who died at Barry, Rhondda, on 16 October in his ninetieth year, was one of the best loved and best known figures in the district. He was born at Merthyr Tydfil in 1844, and at the age of 14 started as an apprentice at Hill's Engineering Works, Plymouth, Merthyr. Five years later he became draughtsman to the Eagle Foundry, Cardiff, where he remained for a year before going to London to take up similar work with Messrs. Shand, Mason and Merryweather, with whom he worked for eight years. He worked also during the period for the Metropolitan Gas Works and for Messrs. Humphrey and Penant, the Admiralty engineers, for whom he designed and completed the drawings of the first vertical engine for the Navy, which was erected in H.M.S. *Thunderer*. In 1872 he was engaged as engineer to the Ocean Coal Company, for whom he worked till 1897, when he retired because of the demands made upon him by his rapidly increasing private practice. During the time he was engineer to the firm he designed and carried out the machinery, equipment and surface arrangements of four large collieries, and five large halls and libraries for the workmen of the collieries, and after his retirement continued to do a certain amount of work for the firm in the capacity of consulting engineer. Practising privately at the same time, he designed and executed a number of churches and chapels in the district.

For fifty-two years Mr. Rees was architect first to the old Ystradyfodwg School Board and later to the Rhondda Education Committee which superseded it, and was also for some years architect to the Llandyfodwg School Board. During these years he planned and carried out schools accommodating over 39,000 children, including the erection and extension of the Porth Intermediate Schools. Nearly all these schools were erected on the mountain side, on gradients as steep as one in five, but in spite of this such care was taken in the preparation of plans, specifications and quantities that the extras never exceeded 2s. in the £1.

Mr. Rees was a man of incredible energy and enterprise. When a young man in London he designed and built a flying machine in the shape of a bird and covered with feathers—an enterprising but not altogether successful venture! And at the age of 86 he travelled 24,000 miles to California in order to see his relations, staying away for two months. Apart from that trip it is on record that he only took one holiday from which he returned, bored by unaccustomed idleness, within a week. Till within three years of his death he worked every day from 6 a.m. till 1 p.m., visited all works daily, usually going on foot for many miles. He was enormously popular in all the offices in which he worked and was liked and respected by employers, clients, contractors and workmen alike, by all of whom he was affectionally known as "Little Rees."

ROWLAND LOCKYER COX [*A.*]

Mr. R. L. Cox, who died recently, was one of the oldest members of the R.I.B.A., having been an Associate for fifty-six years. He was born in 1848, and received his architectural training at the Royal Academy Antique School. As a boy he entered the business of James Lockyer, 12 Southampton Street, Fitzroy Square, became a partner in the firm, and on the death of the Lockyers took over the business in his own name at 9 Great James Street, W.C.1.

His principal architectural works include a large electric lamp factory at Hammersmith, the Hotel du Musée near Brussels, Nos. 64 and 66 Theobald's Road, W.C., the interior of Wormley Church, Hertfordshire, and he also did a great deal of work for Mooney and Sons in London.

Notes

VICE-PRESIDENT'S ENGAGEMENTS

Mr. W. H. Ansell, Vice-President, attended the Annual Luncheon of the British Electrical Development Association on 22 March.

TECHNICAL LECTURES

The second of two lectures of special interest to members of the architectural profession has been arranged to be delivered at the Building Centre, 158 New Bond Street.

27 March 1934, the subject will be "Plastics: The Fourth Material of Construction," by W. Owen Griffiths, A.M.I. Mech.E., Chairman of the London and District Section of the Institute of the Plastic Industry. Chairman: G. Grey Wornum, F.R.I.B.A.

After the lecture an open discussion has been arranged in which architects and technicians will take part.

The first lecture on "Metal Finishes Used in Modern Architecture," by Dr. S. Wernick, took place on 22 March.

Admission will be by ticket, which may be obtained free on application.

Those attending the lecture may, if they wish, obtain admission to the Building Centre from 6.30 onwards.

ROYAL ENGINEERS TERRITORIAL DIVISION

The attention of members is drawn to the fact that Lt.-Col. A. L. Abbott, R.E. (F.R.I.B.A.), of the 56th (1st London) Divisional Engineers, has vacancies for two or three officers in the unit under his command.

Besides possessing the general qualifications necessary for training and service as a territorial, a candidate for the Royal Engineers must be technically qualified—*i.e.*, hold an engineering degree or diploma or have passed the examination of the R.I.B.A. or Institute of Mining Engineers. He need not, however, hold any of these qualifications on first appointment. Promotion to Lieutenant is automatic after three years, provided Certificate "A" is held, and after this promotion is according to unit roster. The first-year training involves (*a*) forty drills, of which 20 are to be performed before the annual camp, (*b*) 15 days' camp, (*c*) recruits' weapon training course. During the second and succeeding years training includes (*a*) 10 drills before camp, and (*b*) annual training in camp. On first joining all officers are advanced £40 towards the purchase of outfit. An officer draws Regular Army rates of pay during camp and when undergoing any courses. Candidates must be between the ages of 18 and 31 on first appointment.

Lt.-Col. Abbott would be pleased to interview and give further information to anyone interested in the matter, who should communicate with Captain C. S. Bright, R.E., 56th (1st London) Divisional Engineers, 10 Victoria Park Square, Bethnal Green, E.2.

CORNISH QUARRY MASTERS' ASSOCIATION COMPETITION

The award of the above competition, which was organised by the Architectural Association, will be announced at the Social to be held at the Architectural Association on Tuesday, 10 April, at 6 o'clock.

GEORGE WITTET MEMORIAL FUND 1934

The Wittet Memorial Scholarship of Rs.1,000 will be awarded in June to the person submitting to the Official Trustee of Bombay the best selection of drawings comprising (*a*) four Double Elephant mounted sheets of a building or buildings of architectural interest measured and rendered by himself, and (*b*) four Double Elephant mounted sheets of working drawings of a building or buildings designed and drawn by himself.

The competition is open only to holders of the Government of Bombay Diploma in architecture who have not previously held the Scholarship. Drawings with the full name of the competitor should be sent to reach the Official Trustee of Bombay at his office in the Old Custom House Yard, Fort, Bombay, not later than 31 May. Details of the conditions can also be obtained from him.

THE ALEXANDER THOMSON TRAVELLING STUDENTSHIP.

The competition for the above Studentship is open to students of architecture between the ages of 19 and 28 years, residing in the United Kingdom. Copies of the Conditions may be obtained on application to William MacLean, Secretary, The Glasgow Institute of Architects, 21 West George Street, Glasgow, C.2.

EXHIBITION OF COTSWOLD ART AND CRAFTMANSHIP, 1933

At the above exhibition, which was held under the Presidency of Mr. F. L. Griggs, R.A. [*Hon. A.*], and organised by the Campden Exhibition Committee, goods to the value of £414 were sold or ordered, and 2,150 people were admitted to the exhibition while it was open. As a result of the exhibition a cheque for £25 was forwarded to the Campden Trust Fund for purchasing "The Conygree," which was threatened by building operations, for presentation to the National Trust. The President and Committee ask for wholehearted support for the next exhibition, which will be held in August 1934. Mr. Paul Woodroffe being chairman and Mr. A. B. R. Fairclough Secretary and Treasurer of the Committee.

SIR JOHN SOANE'S MUSEUM

Sir John Soane's Museum, 13 Lincoln's Inn Fields, W.C.2, is open free from 10.30 a.m. to 5 p.m. from March till the end of August. At other times cards can be obtained from the Curator.

UNION INTERNATIONALE DES VILLES ET POUVOIRS LOCAUX

In the JOURNAL of 27 January, it was incorrectly stated with reference to the Cruise round the British Isles, organised by the Union Internationale des Villes et Pouvoirs Locaux, that the cost of the trip varies between 5.500 and 2.700 Belgian francs *per day*. These prices, however, represent the cost of the *entire* trip, drinks and tips excepted. At the present rate of exchange, the price of the ticket for the cruise is approximately £24 10s.

Instead of the second cruise round the British Isles from 24 August to 5 September, there will be a students' cruise in Scandinavia for the special purpose of studying physical education. Prices have been specially reduced for this cruise. A student's ticket will cost 850 Belgian francs, or £7 15s., and an adult's ticket from 3,000 to 2,100 Belgian francs (£27 14s. to £19).

ELECTION OF STUDENTS, R.I.B.A.

The following were elected as Students R.I.B.A. at the meeting of the Council held on 5th March 1934

BAILLIE: JOHN SOMERVILLE, Deanwood, Pencaitland, East Lothian
BELTON: THOMAS ALFRED LEVERTON, 16 Hawton Crescent, Wollaton Park, Notts.
BROOKE: JOHN HENRY, 15 Parkside Drive, Edgware, Middlesex.
BULLEN: ALFRED, The Glade, Aughton, near Ormskirk.
CHALLIS: HENRY EMANUEL, 96 Bedford Street, Liverpool.
COCHRANE: HUGH FREDERICK, 11 Addison Road, Bedford Park, London, W.4.
CORNISH: PHILIP AMYAS WARRE, 45 Addison Avenue, London, W.11.
DOD: ARTHUR EDWIN ASHTON, 16 Ashbourne Avenue, Blundellsands, Liverpool, 23.
DONATI: EDWARD WILLIAM, Holnicote, Allerford, Taunton.
EDWARDS: CLAUD DOUGLAS, 2 New Road, Netherton, Worcs.
EVANS: DAVID GEORGE, Eastlands, Somers Park Avenue, Malvern.
GOODMAN: JOSEPH CHRISTOPHER, Homeside, Wylde Green, Birmingham.
GREEN: EDGAR ARTHUR, 28 Lyndhurst Road, Wallasey.
GREENWOOD: SAVILE, 76, Bedford Street South, Liverpool, 7.
GRIFFITHS: FREDERICK WILLIAM, "Windcliffe," Helsby, Cheshire.
HARDY: RONALD, 50, Rawlinson Road, Southport.
HARTLEY: RICHARD, Glenroyd, Endsleigh Road, Old Colwyn, N. Wales.
HAY: GEORGE, 2, Crichton Street, Edinburgh.
HIRST: PHILIP EDWIN DEAN, 23 Eastfield Drive, Sefton Park, Liverpool, 17.
HOPKINS: CYRIL EGERTON, 34 Cartwright Gardens, London, W.C.1
HOWARD: JOHN PAUL PATON, Holmby House, 360 Tile Hill Lane, Coventry.
HOWELLS: BERTRAM THOMAS, 20 Heydale Road, Mossley Hill, Liverpool.
JEFFRIES: PHILIP WATERMAN, 78 Jesson Road, Walsall.
JUDGE: RAYMOND FRANK ASPINALL, 9 Ronald Park Avenue, Westcliff-on-Sea.
MARGOT: CHARLES EDWARD, 157 Brecknock Road, Tufnell Park, London, N.19.
MARSHALL: STIRRAT ANDREW WILLIAM JOHNSON, Palermo House, Bentley Road, Princes Park, Liverpool, 8.
MILLS: WILLIAM, Salford House, Turner Street, Sparkbrook, Birmingham, 12.
MITCHELL: ERIC WALTER JAMES, 3 Warwick Terrace, Whipps Cross, London, E.10.
MOIR: BERKELEY LOWNDES, 15 Greenbank Drive, Liverpool.
NEWTON: ALBERT THOMAS, 66 Tiverton Street, Wavertree, Liverpool.
PARKER: ERIC WILLIAM, 134 Copgrove Road, Oakwood, Leeds.
PLATTS: JOHN ANTHONY CALVERT, 10 York Place, Scarborough.
PURVIS: RICHARD, 2 Southlands Grove, Bickley, Kent.
RICHARDS: HELGA MARY, 3 Southfield Avenue, Street Lane, Leeds, 7.
SCATCHARD: HAROLD WILKINSON, Sylcote, St. Catherine's Walk, Gledhow Lane, Oakwood, Leeds, 8.
SEYMER: VIVIAN HOME, 11 Tedworth Square, Chelsea.
SPREULL: DAVID WILSON, 11 Tay Square, Dundee.
THOMPSON: ELIZABETH, School of Architecture, Liverpool.
TULLOCH: JOHN GUTHRIE, 30 Drumbrae North, Barnton, Midlothian.
TURNER: GRACE MARGARET, 30 Holmbush Road, Putney, S.W.15.
WEEMYS: FRANK ARTHUR, 40 Belmont Road, Bushey, Herts.

Allied Societies

YORK AND EAST YORKSHIRE ARCHITECTURAL SOCIETY

The Annual Dinner of the York and East Yorkshire Architectural Society was held on Friday, 8 March, at the Station Hotel, Hull.

The guest of honour was Sir Giles Gilbert Scott. Mr. Frederick J. Horth (president) presided, and others present included Mr. J. R. Macdonald (Stipendiary Magistrate), Mr. D. Harvey (City Architect), Alderman W. C. Holwell, Mr. B. R. Gribbon (president, West Yorkshire Society), Mr. E. A. Sallis Benney, Mr. E. G. Walker, Canon Hall, Mr. G. E. Stephenson, Mr. A. B. Burleigh, Mr. T. Sheppard, M.Sc., Mr. Ian MacAlister, Mr. F. W. Elwell, A.R.A., Principal A. E. Morgan, M.A., Mr. R. Jackson (hon. secretary), Mr. E. A. Pollard (hon. treasurer), and Messrs. C. Leckenby, H. Andrew, and C. W. C. Needham (vice-presidents).

Proposing the toast of "The City and County of Kingston-upon-Hull," Mr. C. W. C. Needham said that there was a trading community at the mouth of the Humber even before Edward I. laid out the new city in 1299 to a definite plan. He added that the first brick building to be erected in England was Holy Trinity Church, Hull.

Alderman W. C. Holwell, responding, observed that civic pride did not go hand in hand with shabby buildings, and it was the aim of the Corporation to abolish bad houses. With regard to slum clearance, the Alderman said he would like to see a shortening of the period between the date of representation and the acquisition of the site. In one particular instance, it had taken more than three years to acquire a site, and it would be a further nine months before new houses would be built on the site. In a reference to the craze for standardisation, Alderman Holwell deplored the fact that individual initiative should be submerged in standardisation.

Principal Morgan said he thought that people should realise the value of the architectural profession to the public weal. Hull had ugly enough buildings, he continued, but it had some magnificent streets which were being spoilt by the type of buildings which were being erected on them.

Mr. H. Andrew proposed "The Royal Institute of British Architects."

Sir Giles Gilbert Scott, responding, recalled a previous visit to Hull 25 years ago. His father, he added, built a church in Hull and developed a building estate in the vicinity of Salisbury Street. Sir Giles went on to speak of speculative building, declaring that this was becoming worse and worse. Building statistics during the past year were staggering; building societies had broken all records by advancing more than £95,000,000—£4,000,000 more than the previous record in 1931. In addition, 146 public authorities in Great Britain approved building plans involving an expenditure of £83,500,000, approximately £18,500,000 more than in 1932.

How much of this building work had been planned by qualified architects? He would hesitate to state a definite figure, but he would say that five per cent. would not be exaggerating the position. The remaining 95 per cent. was planned by men who were not artists and not qualified to do anything except keep out the rain, and not always that.

He had heard that Hull was shortly to develop a civic centre, and he hoped it would not be spoiled by a faulty policy in regard to securing the best layout and design for buildings.

Submitting "The York and East Yorkshire Architectural Society," Mr. J. R. Macdonald recalled that the society had been in existence for 52 years. He proposed the toast in a humorous vein, declaring that while people did not always pretend to understand a painting, they invariably thought they knew something about architecture, and when they looked upon a building for the first time they instinctively said "Rotten."

Mr. F. J. Horth, responding, spoke of the importance which they attached to the education of the young members of the society.

Mr. C. Leckenby proposed "Our Guests," Mr. F. W. Elwell responding.

SOUTH-EASTERN SOCIETY OF ARCHITECTS

Members and friends of the Canterbury Chapter of the South-Eastern Society of Architects, with the Chairman of the Chapter, Mr. H. Anderson, were entertained at a reception in the Refectory of St. Thomas's Hospital, Eastbridge, Canterbury, on 28 February by the Rt. Worshipful the Mayor of Canterbury, Councillor Frank Wood, J.P., the President of the South-Eastern Society of Architects, Mr. J. W. Little [*F.*], M.T.P.I., and the Master of Eastbridge Hospital, The Revd. S. Gordon Wilson.

The proceedings opened with a short speech by the Master, who welcomed the guests and gave a brief description of the history of the historic building in which the assembly took place. He was followed by the Mayor who spoke on the desirability of controlling the elevations of buildings especially in an ancient city such as Canterbury.

The President, Mr. Little, dealt in his speech with the necessity of educating the public as to the desirability of insisting on having what the speaker aptly described as "gentlemanly buildings." This educational process would no doubt be a lengthy one and he gave instances from his own experience of how public audiences could be induced to take an intelligent interest in developments that were going on around them.

A vote of thanks to the Mayor and the President was moved by Sir Anton Bertram, K.C. Music and tea followed, members and their friends having an opportunity of exchanging ideas in a general conversation.

After tea the visitors descended into the Norman Crypt where there was an interesting collection of some 120 drawings of students' work from the various Design Clubs in connection with the South-Eastern Society. Holding the exhibition in an old crypt was in keeping with the architectural atmosphere of the afternoon's proceedings and added interest to the reception.

The last item on the programme was a lecture on the new Town and Country Planning Act by Mr. R. Goulburn Lovell.

EDINBURGH ARCHITECTURAL ASSOCIATION

At the monthly meeting of the Council of the Edinburgh Architectural Association, held at 15 Rutland Square—Mr. James A. Arnott, F.R.I.B.A., President, in the chair—it was decided to reduce Affiliate Membership annual subscriptions from 15s. to 10s. and Life Membership subscriptions from £5 to £4, whereby encouragement may be given to members of allied professional and business bodies to take an active interest in the objects of the Association. It was intimated that the Association had purchased the latest type of Epidiascope for use in connection with illustrated lectures and architectural propaganda. A request was made for nominations of recent buildings in connection with the Scottish Architecture Medal 1927/33 to be awarded by the R.I.B.A., while a special committee was appointed to consider and report on the proposed removal of the railings in East Princes Street Gardens.

The following members were elected:—Mr. E. J. MacRae, A.R.I.B.A., City Architect—as *Fellow;* Messrs. L. G. Pargiter, Blackhall, F. W. M. Pyott, and J. L. Gleave, A.R.I.B.A.—as *Associates;* Messrs. W. T. C. Walker, A. J. Baxter and W. R. Ashcroft—as *Students;* and Messrs. G. J. Darge (district manager, Messrs. Wm. Briggs and Sons), W. A. Macartney, City Engineer, and R. L. Hunter (director, Messrs. M. Cockburn and Co., Ltd., Falkirk), as *Affiliates.*

WEST YORKSHIRE SOCIETY OF ARCHITECTS

Mr. B. R. Gribbon took the chair at a meeting of the West Yorkshire Society of Architects held at the Technical College, Bradford, on 1 March, when Mr. E. G. Richardson of Durham University lectured on "Acoustics of Buildings." In his lecture Mr. E. G. Richardson dealt particularly with the acoustics of churches and concert halls. A vote of thanks to the lecturer was proposed by Mr. Norman Culley, of Huddersfield, and seconded by Mr. J. S. Allen, Principal of the Leeds School of Architecture.

A paper entitled "London Calling" was read by Mr. Stephen Phillips before members and students of the above society at the Leeds College of Art on 8 March, Mr. H. H. Castle, one of the selected finalists in the R.I.B.A. Rome Scholarship, being in the chair.

The lecture was the outcome of an invitation extended by a well-known London architect to four students of the Leeds School of Architecture. Mr. Phillips said he had been greatly impressed by the Building Centre in Bond Street, where they had seen all the latest developments in decorative and building materials, with every facility for learning their prices and their nature. The visitors were, by special arrangement, made free of the B.B.C. Building, which they inspected from basement to roof, and they were much struck by the decorative schemes, which combined art, comfort, and utility. Many other important new buildings were visited. The lecturer said that there could be no doubt that periodical visits to London by provincial architects and students formed an invigorating tonic, and one came back to the provinces teeming with new ideas and fresh views regarding the healthy relationship which should exist between architects and the public.

Notices

THE NINTH GENERAL MEETING

The Ninth General Meeting of the Session 1933-34 will be held on Monday, 9 April 1934, at **8.30 p.m.**, for the following purposes :—

To read the Minutes of the Eighth General Meeting held on Monday, 19 March 1934 ;

To present the Royal Gold Medal 1934 to Mr. Henry Vaughan Lanchester, F.R.I.B.A.

Evening dress optional.

REJECTION OF ARCHITECTS' DESIGNS BY LOCAL AUTHORITIES

Under the 1932 Town and Country Planning Act, Local Authorities have power to reject elevations which they consider are harmful to the amenities of the neighbourhood.

Many Local Authorities have consulted the Panel of Architects set up by the C.P.R.E. and the R.I.B.A. in connection with the elevations of buildings. There have been instances,

however, where Councils, without a skilled Adviser, have rejected the plans of qualified Architects on æsthetic grounds.

Members of the Institute who have had plans rejected in this way are asked to notify the Secretary.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 18 June 1934 they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 14 April 1934.

LICENTIATES AND THE FELLOWSHIP

The attention of Licentiates is called to the provisions of Section IV, Clause 4 (*b*) and (*cii*), of the Supplemental Charter of 1925. Licentiates who are eligible and desirous of transferring to the Fellowship can obtain full particulars on application to the Secretary R.I.B.A., stating the clause under which they propose to apply for nomination.

Competitions

BELFAST: NEW SANATORIUM BUILDINGS

The Belfast Education Committee are proposing to hold a competition for new Sanatorium buildings at Whiteabbey and Graymount and Mr. R. S. Wilshere [*F.*] has been appointed to act as Assessor. Conditions are not yet available.

SLOUGH: NEW COUNCIL OFFICES

The Slough Urban District Council invite architects to submit in competition, designs for new Council Offices to be erected at Salt Hill.

Assessor: Mr. H. S. Goodhart-Rendel [*F.*].

Premiums: £250, £150 and £100.

Last day for receiving designs: 26 June 1934.

Last day for questions: 23 April 1934.

Conditions of the competition may be obtained on application to Mr. F. R. Duxbury, Clerk to the Council, Council Offices, Slough. Deposit £1 1*s*. (Conditions have not yet been considered by the Competitions Committee.)

SWINDON: PROPOSED TOWN HALL EXTENSION

The Town Council of Swindon propose to hold a competition for Extensions to the present Town Hall, and Mr. A. B. Knapp-Fisher [*F.*] has been appointed by the President of the R.I.B.A. to act as Assessor. Conditions have not yet been drawn up.

COMPETITION FOR THE LAY-OUT OF AN "IDEAL VILLAGE"

The proprietors of the *Builder* invite suggestions for the general lay-out of an Ideal Village on garden city lines, suitable for a population of about 5,000 persons.

Assessor: Mr. D. Barclay Niven [*F.*].

Premiums: £50, £15 and £10.

Last day for receiving entries: 29 May 1934.

Full particulars of the competition were published in the *Builder* for 19 January 1934.

Members' Column

ASSISTANT WANTED

ASSISTANT with a knowledge of theatre work wanted in busy architect's office, to act as business manager, particularly on charting jobs, seeing that the specifications and detailing and the sending out of enquiries to sub-contractors proceed in proper sequence, visiting jobs, attending sub-contractors, meetings, etc. Enquiries invited only from those capable of undertaking the above duties. Write with full particulars of experience and salary required to Box 1434, c/o Secretary R.I.B.A.

SHARE IN OFFICE

BRIGHTON ARCHITECT, well established in general practice—Fellow—(Associate of 1909 vintage)—who has received an important commission in London, which might lead to further commissions, desires to get in touch with London architect, also duly qualified, preferably in a small practice, with a view to either sharing office—doing the job on sharing terms—or, perhaps, after investigation, a partnership. The job in question is a dilapidation survey of a very large estate. An application would be considered from a Member specially qualified in this work who is not yet in practice.—Box 8334, c/o Secretary R.I.B.A.

VACANCY FOR ARTICLED PUPIL

MESSRS. JNO. WALDRAM AND SON, 9 Gray's Inn Square, W.C.1, have a vacancy for an articled pupil on specialist work. No premium, small commencing salary. Apply by letter in own handwriting, giving particulars of education and small specimen of drawing and lettering.

FOR SALE

ARCHITECT'S LIBRARY (part of) for sale. Books in good condition. Send stamped addressed envelope.—Box 2424, c/o Secretary R.I.B.A.

WREN SOCIETY AND LONDON SURVEY COMMITTEE.—A member retiring to the country would like to dispose of complete set of the publications of the above Societies, comprising ten quarto volumes to date of the drawings and reports issued by the Wren Society and some 24 panel surveys and monographs of the London Survey Committee. Any member who will undertake to continue subscription to these societies, receiving ensuing publications, can have these sets for nominal sums. Offers to Box 1634, c/o Secretary R.I.B.A.

PARTNERSHIP WANTED

An experienced architect seeks a working partnership with established firm. London or District. Box No. 9234.

NEW PRACTICE

MR. ARTHUR C. BENNETT [*A.*] has commenced architectural practice at 9 Temple Row, Wrexham, and would be pleased to receive trade catalogues, etc.

MR. ALBERT V. MONTAGUE [*A.*] has commenced practice at Camden House, Camden Terrace, Woodhouse Lane, Leeds 2, and will be pleased to receive trade catalogues, information, etc., at that address.

CHANGE OF PRACTICE

MR. ARTHUR L. HALL [*A.*] has moved from 26 Abbotswood Road, Streatham, S.W.16, to 52 Christchurch Road, Streatham Hill, S.W.2, and has changed his business address to 22 Old Buildings, Lincoln's Inn, W.C.2, where he is continuing his practice in association with Mr. H. Victor Kerr [*F.*].

DISSOLUTION OF PARTNERSHIP

Mr. CHARLES W. LONG desires to inform you that this practice will be continued under his name only at 4 Trumpington Street, Cambridge, and at his London office at 21 Bloomsbury Square, W.C.1.

BUSINESS ADDRESS

A Fellow with offices in West End of London, can provide accommodation for business address from which letters could be forwarded to a provincial practitioner, including use of telephone, room for interviews, etc.—Box 1534, c/o Secretary, R.I.B.A.

CHANGE OF ADDRESS

THE PRACTICE of Mr. W. David Hartley [*A.*] has been transferred from 30 Mackenzie Street, Slough, to 226 High Street, Slough. (Telephone : Slough 926.)

MR. GEORGE A. ALLAN [*F.*] is removing his offices from the above address to No. 14 Gray's Inn Square, W.C.1, as from 24 March 1934. His telephone number will be Chancery 7689.

MR. D. E. NIGHTINGALE [*A.*] has changed his address from 3 Dickson Road, Eltham, S.E.9, to 9 Waverley Mansions, Kenton Street, Brunswick Square, W.C.1.

ON THE 29th of March, the firm of Mewés & Davis is changing its offices from 22 Conduit Street, to 1 Old Burlington Street, W.1. Telephone: Regent 2055/6.

Minutes X

SESSION 1933-1934

At the Eighth General Meeting of the Session, 1933-1934, held on Monday, 19 March 1934, at 8 p.m.

Sir Giles Gilbert Scott, R.A., President, in the Chair.

The attendance book was signed by 36 Fellows (including 7 Members of Council), 29 Associates (including 1 Member of Council), 9 Licentiates, 2 Hon. Associates, and a very large number of visitors.

The Minutes of the Seventh General Meeting held on 5 March 1934, having been published in the JOURNAL, were taken as read, confirmed and signed as correct.

The Hon. Secretary announced the decease of:—

George Mallows Freeman, elected an Hon. Associate 1902.

George Reginald Farrow, elected Associate 1908, Fellow 1916.

Mr. Farrow was one of the Hon. Secretaries of the Science Standing Committee for the Session 1923-1924 and a member of that Committee from 1927 to 1933.

James Finbarre McMullen, transferred to the Fellowship Class 1925.

George Andrew Paterson, elected Fellow 1921.

Mr. Paterson was a Past-President of the Glasgow Institute of Architects and represented that body on the R.I.B.A. Council from 1924 to 1926.

Frederick William Finchett, elected Licentiate 1911.

Thomas Archibald Gray, transferred to Licentiateship 1925.

And it was Resolved that the regrets of the Institute for their loss be entered on the Minutes and that a message of sympathy and condolence be conveyed to their relatives.

The following members and students attending for the first time since their election were formally admitted by the President:—

Robert F. Bargman [*F.*].	J. D. Wood [*A.*].
Capt. B. W. Thomas [*F.*].	David Ospalak [*L.*].
John E. Deleuse [*A.*].	Edward W. Cowell [*Student*].
H. Edmund Doe [*A.*].	F. W. G. Davey [*Student*].
Robert F. Fairhurst [*A.*].	E. G. Knight [*Student*].
Raymond Hernu [*A.*].	Denis Roberts [*Student*].
A. W. Warland [*A.*].	

Dr. Camillo Pellizzi having read a Paper by Professor Dr. Guido Calza on "The Rebuilding of Imperial Rome," a discussion ensued, and on the motion of Professor J. W. Mackail, M.A., LL.D., P.B.A. [*Hon. A.*], seconded by Mr. H. N. P. Sloman, Headmaster of Tonbridge School, a vote of thanks was passed to Dr. Calza and Dr. Pellizzi by acclamation and was briefly responded to.

The proceedings closed at 9.50 p.m.

A.B.S. INSURANCE DEPARTMENT HOUSE PURCHASE SCHEME.

(For property in Great Britain only.)

REVISED TERMS.

The A.B.S. Insurance Department is able, through the services of a leading Assurance Office, to assist an *Architect or his Client* in securing the capital for the purchase of a house on the following terms:—

AMOUNT OF LOAN.

75 per cent.

of the value of the property as certified by the Surveyor employed by the Office.

RATE OF INTEREST.

5 per cent. gross (which, at the present rate of income tax, represents 3¾ per cent. nett).

LEGAL COSTS AND SURVEY FEE,

also the amount of the first quarter's premium on the Endowment Assured referred to below, are advanced in addition to the normal loan. If the loan is continued for more than fifteen years the *Survey and Legal Costs will be refunded* to the Borrower on repayment of the loan.

REPAYMENT.

By means of an Endowment Assurance which discharges the loan at the end of 15 or 20 years or at the *earlier death* of the Borrower.

SPECIAL CONCESSION TO ARCHITECTS.

In the case of houses in course of erection, it has been arranged that provided the Plan and Specification have been approved by the Surveyor acting for the Office, ONE-HALF of the amount of the loan agreed upon will be advanced on a certificate from the Office's Surveyor that the walls of the house are erected and the roof on and covered in to his satisfaction.

N.B.—Loans will not be undertaken under this scheme upon:

(*a*) Property the value of which is not sufficient to warrant a loan of at least £500 or of which the value exceeds £2,500;

(*b*) Property of the bungalow type;

(*c*) Property not in the sole occupation of the Borrower.

If a quotation is required, kindly send details of your age next birthday, approximate value of house and its exact situation, to the Secretary, A.B.S. Insurance Department, 9 Conduit Street, London, W.1. Telephone: Mayfair 0434.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

R.I.B.A. JOURNAL

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